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Sustainability values in Alternative Food Networks the case of Box Schemes and CSAs

Guzman Rodriguez, Paola Andrea

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Sustainability Values in Alternative Food Networks: The Case of Box Schemes and CSAs

By
Paola Andrea Guzmán Rodríguez

PhD

September, 2020



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Paola Andrea Guzmán Rodríguez

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**A thesis submitted in partial fulfilment of the University's requirements
for the Degree of Doctor of Philosophy**



Certificate of Ethical Approval

Applicant:

Paola Guzman

Project Title:

Examine the financial and operational performance of box schemes and CSAs in the UK to evaluate their potential to scale up

This is to certify that the above named applicant has completed the Coventry University Ethical Approval process and their project has been confirmed and approved as Medium Risk

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**SUSTAINABILITY VALUES IN
ALTERNATIVE FOOD
NETWORKS:**

**THE CASE
OF BOX
SCHEMES
AND CSAs
IN ENGLAND
AND WALES**

By Paola Andrea Guzmán Rodríguez

PhD

March 2020

Abstract

The industrialisation of agriculture has transformed it from a subsistence to a commercial activity. Aided by the change to neoliberalism in the 1980s, multinational food corporations used industrialised agriculture to globalise their businesses. This conventional food system integrates production, processing and marketing into a few firms which operate around the world. Its effects have caused detriment worldwide to rural life, the environment and people's health (Welsh, 1997; Clunies-Ross and Hildyard, 2013). The organic movement was created to overcome this new system. However, it also fell prey to neoliberalism and therefore conventionalised to the point that organic produce is available in most supermarkets today (Conford, 2001; Darnhofer *et al.*, 2010). Within the organic and sustainable food movement there were some that disagreed with the move towards neoliberalism and therefore a subsector of independent farmers and retailers was born (Guthman, 2004). This sector is studied by the Alternative Food Networks (AFNs) literature.

AFNs include commercial initiatives such as box schemes, community supported agriculture (CSAs) initiatives and farmers' markets and non-commercial initiatives such as community and school gardens (Allen *et al.*, 2003). Early literature established that AFNs are an alternative to the conventional food system, but subsequent literature evidenced that AFNs implement both alternative and conventional values (Ilbery and Maye, 2005) and that some AFN characteristics can be adopted by multinationals (Tregear, 2011). As such, the literature has not been able to determine the difference between AFNs and the conventional food system. This research argues that the difference is that AFNs promise to be sustainable through the implementation of sustainable values. As such, to establish their difference it is necessary to study how sustainable values are practiced and to what extent.

Existing research on sustainability is unsuitable to study how sustainable values are practiced and to what extent. Sustainability assessment tools are unsuitable because they do not approach sustainability holistically, are design for specific purposes, define sustainability from their own perspective and they do not expose the values of the food system (Schader *et al.*, 2014; Alrøe *et al.*, 2016; Maye and Duncan, 2017). Moreover, research on sustainability of AFNs tends to skirt around its practice to focus on behaviours, cultural advantages and methods that contribute to sustainability. The few papers that study the sustainability of AFNs concentrate on the contextual factors that shape sustainability, aspects involved in its practice and the social, economic and environmental impacts of AFNs (Miller, 2015; Forssell and Lankoski, 2017). However, none of these studies set out to determine how and to what extent sustainability values are practiced.

To this end the research developed a novel methodology based on a ‘quilt’ of analytical tools adapted from Alternative Food Networks (AFN), Values Based Supply Chains (VBSC) and business studies literature. To understand how sustainable values are practiced, the methodology concentrates on one type of AFN. Hence, box schemes and CSAs are chosen due to their similarities. The methodology uses as data operational and financial characteristics as these concentrate on the enterprise rather than on the individuals involved. It is argued that these characteristics are a result of how sustainability values are practiced and traded-off. Eight case studies from England and Wales were chosen to develop the methodology.

The research proposes that box schemes and CSAs practice sustainability by choosing two main values: first, the ‘principle value’ which is the most important and the one case studies achieve the most, as their operations are designed to accomplish it; and second ‘commercial behaviour’ which is the way they behave towards earning money. These two values impact social, economic and environmental values, making case studies trade-off between them. The

extent to which values are practiced is dependent upon principle value and commercial behaviour.

The thesis makes an original contribution to knowledge in several aspects. First it has developed a detailed analysis of the operational and financial characteristics of eight box schemes and CSAs in England and Wales. Second, this thesis develops a new methodology to study the sustainability of case studies from their own terms rather than from a predetermined list and considering social, economic and environmental issues. By doing so the research advances knowledge of AFNs in operational and financial characteristics, economic aspects, customers, sustainability practice and study, trade-offs, hybridity and values. Finally, the research contributes to the debate about the difference between AFNs and the conventional food system. It proposes that whilst commercial AFNs practice a principle value that contributes to sustainability and trades-off other sustainability values, businesses within the conventional food system practice a principle value that is primarily economic.

Key words: Alternative Food Networks, sustainability, values, box schemes, community supported agriculture.

To my mom who I owe everything I am
A mi mami a quien le debo todo lo que soy

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List of Acronyms

AFN – Alternative Food Networks
CSA – Community Supported Agriculture
MNCs – Multi-National Corporations
IFOAM – International Federation of Organic Movements
PDO – Protected Designation of Origin
PGI – Protected Geographical Indicator
VBSC – Values Based Supply Chains
SFSC – Short Food Supply Chains
LGU- Land Grant Universities
NGFN – National Good Food Network
MM – Mixed Methods
QUAN – Quantitative
QUAL – Qualitative
BFT – Better Food Traders
GC – Growing Communities
5LIS – 5 Line Income Statement
COFCO – Cambridge Organic Food Company
NGO – Non-Government Organisation
P&L – Profit and Loss Account
COGS – Cost of Goods Sold
COP – Cost of Production
COS – Cost of Sales
BER – Business Efficiency Ratio
NUS – National Students Union
OFNS – Office of National Statistics
SDOP – South Devon Organic Producers
WFTO – World Trade Organisation
NMW – National Minimum Wage

FTE – Full Time Equivalent

HNC – Higher National Certificate

CEO – Chief Executive Officer

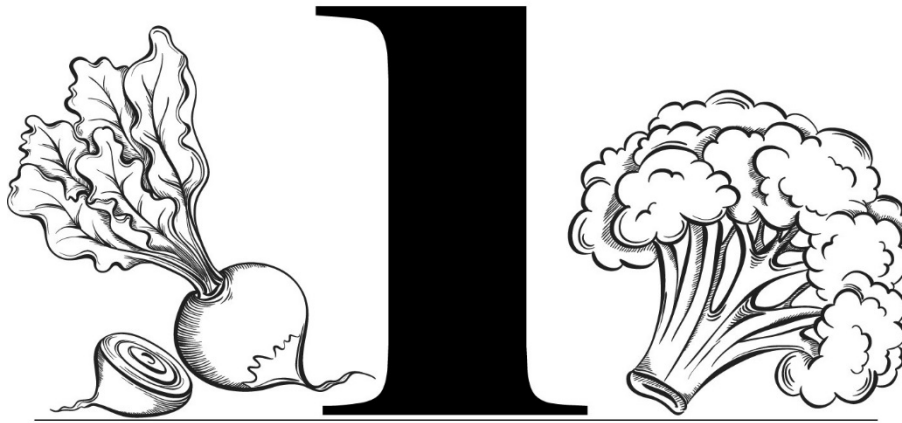
LGV – Large Goods Vehicles

USDA – United States Department of Agriculture

PGS – Participatory Guarantee Systems

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Chapter 1

Introduction

The food system that most people access in rich countries sources food from all over the world. UK supermarkets import produce from countries with different climates and therefore offer tomatoes alongside Brussels sprouts all year round. Processed foods are also important products, occupying more space in the supermarket than fresh produce. Imported and processed foods are some of the elements that have brought great fortunes to supermarkets helping them to globalise and make them profitable businesses. But alongside success, this conventional food system has also created devastating effects for people and the environment. A globalised food system fosters unfair trading arrangements, inadequate labour conditions, environmental degradation and poor health. Since the 1990s academics have focused their attention on ‘alternative food networks’ (AFNs) which promise to provide solutions to the problems of the conventional food system. Since then a surge of research has emerged analysing different aspects of AFNs such as the food they trade, the economies they create and the people that they involve. These innovations lead to social change which is fundamental to address the problems in the current food system (Maye and Duncan 2017). But despite this research, much about AFNs is not yet understood.

AFNs are extolled as an alternative to the conventional food system because they practice social, economic and environmental sustainability values which are achieved through characteristics such as quality, local food and strong relationships between producers and consumers. However, critical literature demonstrates that such characteristics do not inherently lead to positive outcomes and that the characteristics and values are not exclusive to AFNs; they can also be found in conventional food systems (Tregear 2011). As such, conceptualising AFNs as ‘opposite’ to conventional food systems is problematic because both systems interact and borrow from each other (Holloway et al. 2007). Thus, AFN authors ask if these networks are different to conventional food systems (Allen et al. 2003, Whatmore et al. 2003). The concept of hybridity has emerged to accept that AFNs are imperfect because they implement both conventional and alternative values and practices (Ilbery and Maye 2005, Trabalzi 2007, Forssell and Lankoski 2014). Therefore, AFNs are different to conventional food systems but to various degrees depending on how they implement alternative and conventional values. As such the question becomes ‘how’ are AFNs different to conventional food systems?

This thesis proposes that AFNs are different by promising to be sustainable through the implementation of sustainable values. Reframing AFNs as sustainable allows AFN research to explicitly and actively engage with social, economic and environmental sustainability values and surpass the oppositional conceptualisation. But to do so, sustainability is defined as socially and politically constructed and from this perspective, analysed as an open process constructed by those working towards it. People that work towards sustainability define what is to be sustained and how (Maxey 2007). Researchers and food activists often assume something inherently good about AFN characteristics. Born and Purcell (2006) call this ‘the local trap’. They argue that despite critical literature evidencing that AFNs are not inherently good, researchers and food activists still appeal to AFNs as a solution to the problems raised

by the conventional food system. Asking ‘how’, instead of ‘if’, AFNs are different to the conventional food systems is a way to escape the local trap. It makes explicit the values that are different and similar to conventional systems. As such, the question of how AFNs are different to conventional food systems is reframed through sustainability. Therefore, this research contributes to the understanding of how AFNs are different from conventional food systems by aiming to determine how and to what extent sustainability values are practiced by box schemes and CSAs in England and Wales.

There is little research on AFNs that aims to understand how sustainability values are practiced and to what extent. To fill this gap this research provides an in-depth study of eight box schemes and CSAs. The research proposes that to understand the hybridity and sustainability of AFNs, they must be analysed through their operational and financial characteristics. Methodologically it does so by taking a bottom-up approach. Instead of starting from a list of sustainability criteria (i.e. top down approach) the research starts by analysing what box schemes and CSAs aim to sustain and then analyses how and to what extent. To achieve this, the research proposes a new conceptual framework which uses a quilt of analytical tools and the financial and operational data of box schemes and CSAs. It is argued that operational and financial data evidences how values are operationalised therefore providing an accurate account of what individual AFNs aim to sustain, how and to what extent.

This chapter introduces this thesis by setting out what the thesis is about, why the topic of study is important and how the thesis is laid out. This thesis is about how and to what extent sustainability values are practiced by box schemes and CSAs in England and Wales. To understand why the sustainability of box schemes and CSAs is an important topic of study, the first section describes the rise of the conventional food system. It explains agricultural industrialisation, the political and economic factors that facilitated the development of the

conventional food system and evidences its negative impacts on rural communities, the environment and people's health. The second section covers the birth and growth of the organic movement. It discusses how organic agriculture hoped to be a solution to industrialised agriculture. However, its conventionalisation due to organic certification, food scares and new entrants into organic farming, led the sector to become largely appropriated by multinational corporations. The section discusses the bifurcation of the organic production sector between those supplying supermarkets and those retailing their produce alternatively or away from supermarkets. This is where box schemes and CSAs are situated within the agricultural industry. The following section describes box schemes and CSAs and demonstrates that they are suitable to study together, as it is hard to determine the characteristics that distinguish them. Section 1.5 introduces Alternative Food Networks (AFNs) as the main literature that has studied box schemes and CSAs. The section reviews two main strands of AFN literature: early literature which tends to extoll AFN characteristics and critical literature which demonstrates that AFNs are not inherently 'better' than conventional food systems. This leads to the next section which discusses the main argument of this chapter. That is, that to understand how AFNs are different to conventional food systems the research must understand how and to what extent sustainability values are practiced by box schemes and CSAs in. Section 1.6 presents the existing literature on sustainability and evidences that little research has addressed the practice of sustainability within AFNs. The following section sets out the aims and objectives of this research, the chapters that cover each objective and finally it provides an overall layout of the thesis.

The rise of the conventional food system

The industrialisation of agriculture describes the process by which agriculture was transformed from a subsistence activity to a commercial activity (Welsh 1996). Production characteristics of this transformation include the increased use of machinery, agrochemicals

for fertility and pest control purposes and developments in livestock and plant breeding. These changes in production have resulted in an increase in farm efficiency (Clunies-Ross and Hildyard 2013). There are also structural characteristics that have transformed food production into an agroindustry sector, these include coordination, concentration, and globalisation. Coordination is both vertical integration, which means the integrated ownership of different steps in the supply chain, and contract farming. This means that one actor can own and/or control all stages from the production to the retailing of food through ownership and/or contracts with farmers. Concentration means an increase in the firm size which results in fewer but bigger firms in the industry. Therefore, few firms are able to exercise their power over the whole industry. Finally, globalisation of agriculture means the ability to forge international trade links that coordinate and concentrate production and consumption at a global scale. Both production and structural characteristics have resulted in a conventional food system that is increasingly concentrated in a few multi-national corporations (MNCs) that either supply inputs to the industry (e.g. Bayer, Syngenta), process food (e.g. Coca-Cola, Unilever) or retail food (e.g. Carrefour, Walmart) and therefore control food production, processing or retailing at a global scale (Welsh 1996).

Welsh (1996) offers two explanations for the rise of the conventional food system. The first is that consumers demand safe and convenient food which is possible to achieve by coordinating steps along the supply chain to ensure that the products delivered to consumers are of the qualities they expect. As such the conventional food system is a mere response to consumer demand. The second explanation is that firms involved in the agricultural industry saw coordination, expansion and globalisation as a strategy to increase profits. This second explanation is strongly related to the implementation of a neoliberal agenda by rich countries during the 1980s.

US president Ronald Reagan and UK prime minister Margaret Thatcher believed neoliberalism was the solution to unnecessary regulation and the excess of the welfare state. Their rise to power started the implementation of such agendas not only in their own countries but also globally. Busch (2011:53) finds four positions of the neoliberal agenda. First, 'markets should be actively promoted' because they have the power to distribute goods and services locally without state intervention. Therefore, the second position is that the role of government is to only support the market and to make it more competitive. As such public services and enterprises must be privatised. Third, people must be encouraged into entrepreneurialism. Finally, governments must promote and facilitate free trade by supporting international institutions that regulate free trade and limit state sovereignty.

Given the policy conditions MNCs were able to flourish. In the context of the UK, the 1980s and 1990s saw a great concentration and expansion of supermarkets. In 1976 there were 142,000 independent food retail businesses, by 1990 this was reduced to 86,800 (Marsden et al. 1997). By squeezing independent retailers, supermarkets now dominate the grocery sales in the UK. The nine biggest supermarkets control 95.4% of the grocery market share in the UK (Kantar 2020). Coordination is necessary to ensure a steady supply of food. Globalisation is implemented through food imports and MNC's expansion globally. In 2017 half of the food consumed in the UK was imported and 19% of it came from countries beyond the EU (National Statistics 2018). MNCs control supply chains not only domestically but also globally (Barrett et al. 1999). Supermarkets have also expanded globally. British Tesco, French Carrefour and Casino, Dutch Ahold and Makro, Belgian Food Lion, and US Walmart, all have presence in Asia and Latin America (Reardon et al. 2005).

An important product of the conventional food system is processed foods. Earlier it was discussed that a reason for the conventional system was consumer demand: they want consistent and safe products. However, some authors argue that consumer demand is

overstated and it is used to cover economic motivations. Consumer demand is rather constructed through product development and advertisement. In rich countries these tools have been used to drive consumption towards food products that are close to being fully prepared, or processed foods (Welsh 1996). Processing food adds value to raw ingredients. The power food processors and retailers have over food production allows them to source cheap ingredients. By controlling product design, food processors can base processed food on a few ingredients such as cotton seed, corn, soybean and fishmeal. Processed food is more profitable because raw materials are combined to add value and it is easier to transport and store than fresh ingredients therefore reducing operational costs for retailers. It also saves time in household labour therefore making it attractive to consumers (Clunies-Ross and Hildyard 2013).

Therefore the conventional food system is 'the systematic way in which the activities of farming are integrated into a much larger industrial complex, including the manufacture and marketing of technological inputs and of processed food products under highly concentrated forms of corporate ownership and management' (Whatmore 2000: 10 in Guthman 2004).

These practices are implemented with the purpose of achieving superior profitability (Kloppenburg 1996, Lyson and Green 1999, Clunies-Ross and Hildyard 2013), which can be said is the principle value of conventional food systems. This focus on superior profitability has had detrimental effects. Although this is not an exhaustive list, the conventional food system has impacted rural life throughout the world, has had devastating effects on the environment and on people's health. The impacts of the conventional food system on rural life domestically include the reduction of farm labour due to the increased use of machinery and the concentration of farms. Entry into the farming industry is increasingly challenging due to the high costs required. Market access is also challenging as there are only a few MNCs farmers can sell to (Hendrickson et al. 2001). Land has become a commodity that is

owned by individuals, corporations, foreign owners and institutions. The reduction of farm work and the concentration of farms has also impacted rural life with a decrease in services and an increase in deprivation. Industrialization also poses a threat to the health of farm workers because of the use of highly toxic agrochemicals (Clunies-Ross and Hildyard 2013). Internationally, rural communities have also been affected. Free trade was promoted throughout poor countries to include them in international trade and therefore benefit them economically. However, as trade is controlled by rich countries, poor countries are producing food in line with their diets, interests and regulations. Small-scale farmers have been displaced from their lands to make way for larger farms where agricultural commodities needed by rich countries are grown. Efficient production in rich countries has led to overproduction of other agricultural products. Surpluses are dumped in poor countries thus further affecting small-scale farmers. There are also environmental effects. The increased use of agrochemicals and machinery has reduced wildlife and wildlife habitats, increased soil erosion and compaction, salinization and waterlogging, introduced toxic pollutants to water and soil, and depleted groundwater. Finally, consumers have also been affected through the increased consumption of highly processed food. The quality of this food is not as high as that of natural food. It generally has poor nutritional value, it includes additives and agrochemical residues harmful for human health, and the high sugar and salt contents contribute to diabetes and heart disease (Clunies-Ross and Hildyard 2013).

This section has shown that the conventional food system has come to dominate food production in the UK and globally. It relies on industrial food production with an underlying political and economic philosophy of neoliberalism. This conventional system, whose principle value is superior profitability, has created adverse impacts for rural communities both locally and globally, the environment and consumers. As this conventional system was

developing, so was organic agriculture. The following section will describe the evolution of organic agriculture and its inclusion in the neoliberal doctrine.

1.2 Birth and growth of the organic movement and industry

Organic farming originated within groups of people on the fringe of industrialised agriculture. These groups came together because they were concerned about the impact of industrial agriculture on rural life, the environment, and people's health (Michelsen 2001:64). Due to its fringe nature, few farmers were in the movement and practiced pre-industrial methods. This created close communities which regularly met with those writing, investigating and promoting organic production techniques. In the English language three authors and works are considered the bedrock of organic agriculture. From Austria, Rudolf Steiner's *Bio-Dynamic Farming and Gardening* (1924); from England, Sir Albert Howard's *Agricultural Testament* (1943) and Lady Eve Balfour's *The Living Soil* (1943). Contrary to the paradigm of industrial agriculture of controlling nature through synthetic inputs to enhance soil fertility and control pests and diseases, these authors' principles are to work with nature because it provides the inputs and balance necessary for soil fertility and pest control. This was to be done by viewing the production process as a closed cycle or living organisms (hence the word 'organic'), where resources are used and replenished through the rotation of crops. The location where farming takes place is not just a site but a system in which people and environment come together. Therefore, social, economic and environmental issues must be balanced to succeed (Padel et al. 2009).

Since its inception in the 1920s through the 1980s the movement grew at a slow pace. Institutions were formed to encourage the trading and training of organic agriculture. In Germany, Demeter was founded in 1927 to market biodynamic products. In the UK, the Soil Association was founded in 1946, to carry out research and train people in organic agriculture

(Conford 2001). Organic agriculture spread to other countries such as South Africa, New Zealand, Costa Rica and the US (Barton 2018). In the 1960s the trading of organic foods was mostly through cooperatives and communes where local food was distributed (Aschemann et al. 2007). However, the 1980s significantly changed the organic movement, converting it into an industry (Darnhofer et al. 2010, Barton 2018). The organic market quickly grew in the 1980s. By 1986 the UK annual turnover of organic produce exceeded £5 million (Conford and Holden 2007). Three factors were identified in the literature which contributed to the expansion of the organic market in the UK: organic certification, food scares and new entrants into organic farming.

Initially, organic standards were implemented to guide farmers into organic food production and thus build consumer trust. The first in setting private standards was the biodynamic movement. Farmers were to follow rules to supply the first Demeter cooperative. These standards were audited by producers themselves through a process call ‘first party’ certification (Nelson et al. 2010). Similar approaches were adopted in Switzerland, UK and France. As such, a diversity of practices, standards and labels emerged in several countries and those involved in the organic movement saw the need to harmonise these different practices. This process began with the founding of the International Federation of Organic Movements (IFOAM) which published standards in 1982. Then, the European Commission adopted organic standards regulation in 1992. The United Nations’ Food and Agriculture Organisation and the World Health Organisation followed, instituting the Codex Alimentarius in 1999. Finally, organic standards were passed into law in 2002 in the US (Schmid 2007). To implement and oversee these standards, certification moved from first to third party, which means independent institutions were created to harmonise standards and work with national governments to audit farmers’ compliance (Busch 2011). Today, there are nine certification bodies in the UK (DEFRA 2018). The rise of third party certification

contributed to the expansion of organics by allowing organic food to also be produced in poor countries and consumed in rich countries under the same standards to ensure customer trust. But, Nelson et al. (2010) argue that this leads to an input substitution model of organics, centralisation of power and inaccessibility to small scale, low income producers, characteristics also found in conventional food systems.

The second contributing factor to the expansion of the organic market found in the literature is food scares. Since the 1980s food scares have questioned the safety of the food produced through the conventional food system. The term food scare is applied to a variety of situations where the safety of food is compromised. Knowles et al. (2007) list 28 main food scares in Europe between 1988 and 2006. There are three types of food scares: microbiological, contaminated and animal disease related. A prominent food scare case in the UK was the outbreak of salmonella in eggs and cheese in 1988. The government found that most egg production in the country was infected with salmonella. BSE was also an important problem in the UK's beef industry with 182,583 reported cases between 1995 to 2005 (Knowles et al. 2007). Food scares have had a great impact on consumer perceptions of the safety and health risks of consuming food from an industrialised system. Consumers became more concerned about where food was produced and how it was produced. They began to demand healthy, ethically produced and high-quality food. The increasing affluence of rich countries allowed concerned consumers to be willing to pay premium prices for such food. For some, food has become central in the construction of their identities and lifestyles (Murdoch and Miele 1999, Barrett et al. 1999).

Finally, a third contributing factor found in the literature and specific to the UK was the arrival of new farmers into organic agriculture. Between 1975 to 1980 a new wave of organic farmers coming from urban areas and who had no previous training in industrialised nor organic agriculture entered The Soil Association's council. They represented a bigger group

of younger farmers who were determined to make a living using organic food production methods. However, when they discovered poor government support, they decided that to stay financially viable, they needed to market their products to consumers who understood their green beliefs and ideas and therefore would be willing to pay premium prices. As such, the Soil Association invested in persuading supermarkets to stock organic products so that these new farmers could be financially viable by reaching more consumers. Safeway was the first in 1981 followed by Waitrose, Sainsbury, Tesco and Marks and Spencer (Conford and Holden 2007).

Certification, food scares and new farmers wanting to live from organic agriculture came together to transform organic agriculture into an industry. By 1997 the organic food market was estimated to be worth \$4.5 billion in Europe, \$68 million in Canada, \$60 million in Australia and \$4.2 billion in the U.S (Lohr 1998:1125). MNCs have entered the organic industry. For example, US General Mills manufactures several organic products (canned tomatoes, frozen fruits and vegetables, and cereal) and Gerber, Kellogg, Mars, Heinz and Dole all sell at least one organic product (Guthman 2004). In the UK, 68% of organic food is traded through supermarkets (Soil Association 2017). As such it can be said that the organic movement also embraced the neoliberal agenda of the 1980s to help it grow and reach more customers.

Guthman (2004) argues that the involvement of MNCs changes the way in which organic farmers operate. MNCs introduce 'the logic of intensification' (Guthman 2004:307) which means organic producers adopt production strategies, like farm concentration, input substitution and product specialisation (low crop variety) to maintain farm incomes (Ramos García et al. 2018). Smaller operations, which do not implement such practices, become less profitable because they compete directly with larger operations in the same markets (Darnhofer et al. 2010). Although the conventionalisation debate was formulated from the

observation of the organic industry in California, activities like farm concentration and input substitutions have been observed in the organic industry around the world (Lockie et al. 2006 in Darnhofer et al. 2010). This suggests a departure from the principles proposed by the pioneers in which social, economic and environmental elements should be taken into consideration.

Several authors have argued that the conventionalisation thesis cannot be universalised (Coombes and Campbell 1998; DuPuis 2000; Hall and Mogorodoy 2001; Michelsen 2001; Campbell and Liepins 2001 cited in Guthman 2004) because the presence of MNCs only affects those supplying them, therefore leaving small independent farmers free of the conventionalisation pressures. Although there are more nuances within this debate, what is important for this research is the recognition of a bifurcation in the organic industry between large organic farmers supplying supermarkets and smaller organic farmers retailing their produce alternatively, or away from supermarkets. Or in other words, those that evolved from the pioneers' principles and those who stay fixed within the principles. Although this dichotomy may simplify organic farmers, it is useful to situate box schemes and Community Supported Agriculture (CSAs) enterprises, the focus of this thesis, within the agricultural sector in general and the organic sector in particular.

1.3 Box schemes and CSAs

Differentiating between box schemes and CSAs is challenging because both supply a weekly bag/box of vegetables to consumers. Tolhurst (2016:95) defines box schemes as 'A weekly supply of in-season vegetables grown locally and delivered to the customer or a local drop off point'. According to the UK CSA network, CSAs are 'a partnership between farmers and consumers in which responsibilities, risks and rewards of farming are shared' (CSA Network 2015). Whilst the former definition highlights what box schemes do, the latter highlights how

CSAs are organised. Pretty (2000) argues that the difference is that although box schemes and CSAs share the same distribution method, 'CSA is an understanding of mutual support' (Pretty 2000:6) which is achieved by customers committing in advance, with a payment, to buy produce directly from the CSA. However, box scheme customers also commit in advance through a subscription and make advanced monthly payments (Tolhurst 2016).

Potentially what distinguishes CSAs from box schemes is that CSAs have stronger relationships with their customers. Box schemes originated in the UK as CSAs (an idea brought from the US) and were mostly run by farmers with strong relationships with customers. However, box schemes developed into businesses without any of their own production and buying all produce from different farms. Pretty (2000:7) proposes that this changes the relationship between producer and consumer thus making box schemes 'simply a response to market-orientated economy' and therefore taking box schemes out of the CSA logic. But not all self-identified box schemes have eliminated their own production as evidenced by Tolhurst (2016). Furthermore, buying from different farms is a solution for box schemes operating from metropolitan areas where the access to 'local' produce is more challenging. In this context strong relationships can be built through customers taking part in packing and delivery or community food growing. Basing the idea of CSAs on stronger relationship is also problematic because not all CSA types require the same type of relationship with consumers. Pretty (2000) proposes four types of CSAs, but only two require a high level of involvement from customers. These are 'consumer-driven' and 'farmer-consumer cooperative' where customers are involved in the production and day-to-day running of the CSA, in some instances also sharing land and other resources. In 'farmer-driven' and 'farmer cooperative' CSAs the farmer or farmers make all decisions therefore limiting the role of consumers.

UK practitioners argue that this confusion is only domestic and that rather the sector should follow the example of the US, where they first originated. But differently to the UK, where amongst practitioners there is a distinction between box schemes and CSAs, mostly because they self-identify as one or the other, the term CSA in the US is used to mean both. In a study of CSAs in California's Central Valley, Galt et al. (2011) found two main types of CSAs: box model and farm membership/share model. The box model is also a subscription to a weekly bag/box of vegetables. The second type is where the member pays a subscription fee which is then used to purchase products from different retail outlets the CSA participates in such as pick your own, farm stands and farmers' markets. The authors identify a third type: 'Non-Farm Aggregators'. This is the same as how Pretty (2000) defines box schemes, whereby enterprises aggregate and distribute produce to final consumers from farms disconnected to the box scheme business. But, Galt et al. (2011) acknowledge that although their study does not consider these as CSAs, non-farm aggregators identify themselves as CSAs, market themselves as CSAs, and are part of CSA listings online. As such, organisational structure, relationship with consumers and procurement are some of the characteristics that vary between enterprises supplying a weekly bag/box of vegetables. This review has not listed all of them. However, the important point is to understand that box schemes and CSAs overlap in their practices and characteristics and therefore it is challenging to define one over the other. But this overlapping makes them suitable to study together, to understand how at the individual level they vary from one to the other.

Box schemes and CSAs have been studied by the Alternative Food Networks (AFN) literature. Researchers studying changes in the agricultural industry, for example Welsh (1996), Marsden et al. (1997), Goodman (2003), and Whatmore et al. (2003), saw an alternative in emerging schemes which focused on trading organic produce, locally, directly between producers and consumers. These new ways of trading or AFNs are important

because they are considered as solutions to resolve the problems of the conventional food system (Kloppenburger 1996, Marsden et al. 2000, Maye et al. 2007). Such new schemes include farmers' markets, cooperatives, urban gardens, community land trusts, food policy councils, farm stands and the focus of this thesis: box schemes and CSAs (Allen et al. 2003).

There are different perspectives and ways in which Box schemes and CSAs have been studied. Since they are a typical type of AFN, authors study them alongside other types like farmers' markets and urban agriculture projects to, for example, define a 'The New Agriculture' (Hamilton 1996), discuss the benefits and challenges of local food systems (Pretty 2001), create frameworks to study AFNs (Holloway et al. 2007, Dansero and Puttilli 2013) and to analyse how they reconnect producers and consumers (Kneafsey et al. 2008a, Bos and Owen 2016). Box schemes or CSAs are also used in the literature to compare them with conventional food systems; Thompson and Coskuner-Balli (2007) do so to demonstrate how political ideologies shape consumption communities and Pesch and Tuck (2019) to analyse the economic impact. Several papers on consumer motivations to purchase from AFNs use box schemes and CSAs perhaps because of the consistent nature of their customer bases (Kolodinsky and Pelch 1997, Seyfang 2008, Russell and Zepeda 2008, Brown et al. 2009, Hashem et al. 2017, Galt et al. 2018). Other studies explore customers' psychological benefits of membership to a box scheme or CSA (Zepeda et al. 2013, Hayden and Buck 2012). Studies focus on box schemes and CSAs as well to explore themes such as gender (Jarosz 2011) and food access for low income communities (Andreatta et al. 2008). Other authors approach box schemes and CSAs from a production perspective, in other words as part of organic production methods (Lobley et al. 2009, Ilbery et al. 2016). Finally, a growing number of box schemes are now trading nationally which has sparked interest on the analysis of how values translate into scaled up AFNs (Clarke et al. 2008, Ostrom et al. 2017, Larsson et al. 2016, Milestad et al. 2017).

1.4 Values within AFN literature

To gain a better understanding of AFN literature and to acknowledge the importance of values within this thesis, it is essential to examine values and how they are presented in the literature. Values are central in the discussion of food production, retailing and consumption because they inform practice and therefore impact people and the environment (Kirwan et al. 2017). Several authors include values as an essential element of AFNs. For example, Marsden et al. (2000) propose that a key characteristic of short food supply chains (SFSC) is their ability to enable a product to reach the consumer loaded with information about the values the product embodies. Whatmore et al. (2003) argues that what is common between AFNs is that they aim to redistribute value between those involved in the supply chain. This fosters trust, creates new political associations and market governance systems. Jarosz (2011) identified that the motivation of women to be involved in alternative farming was that it provided them with a different way of life based on a set of values that ensure the caring for place and the environment. Finally, Mount (2012) argues that the shared goals and values that underpin a food system are a key principle of AFNs.

Graeber (2001:14) argues that there is no ‘systematic theory of value’. Disciplines like anthropology or sociology have failed to provide a categorical definition of value/values because in the singular and plural it can be seen from three different perspectives: sociological, economic and linguistic. From a sociological perspective values means ‘conceptions of the desirable’ (Graeber 2001:17) where desirable means not only what people want but what they should want. As such, values enable people to judge which desires are worthy of pursuing and which ones are not. From an economic perspective value is about the desire for maximising profit. This means that each person knows what he/she wants, and he/she is trying to achieve it by investing as little effort as possible, hence maximising profit. This perspective situates value within neoliberalism where everything has a value or price:

objects, land, human capacity and relationships. Graeber (2001) argues that the difference between the sociological and economic perspectives is the purpose of the discipline studying value. Whilst anthropology seeks to understand the differences between humans, economics aims to predict human behaviour. Therefore, on one hand individuals, communities or societies hold different sets of values; on the other the behaviour of an individual, a district or a country can be predicted by the principle of profit maximisation. Graeber (2001) proposes a third perspective to interpret value: Linguistic. The argument is that values are embedded in words and thus they influence human behaviour. However, the value of a word is gained through its position in relation to an opposite or within a system. This is called meaningful difference. For example, the value of 'red' is recognised in relation to a system of colours. Even though the meaning of value can be divided into three, Graeber (2001:15) identifies that ultimately the three different perspectives define value in the same way. That is that 'things are meaningful because they are important. Things are important because they are meaningful'.

AFN literature discusses value and values in these three perspectives. Eriksen (2013:53) follows Graeber's (2001) sociological perspective by conceptualising values as 'conceptions of the desirable' which determine how producers, distributors, retailers and consumers behave within a food system. They motivate people to act, to communicate and to justify their actions within a food system. Similarly, Mount (2012) proposes that AFNs have intangible qualities which are hard to quantify because they depend on the perception of actors. In other words, an actor quantifies an intangible quality depending on how much he/she judges it is worth pursuing. AFN literature captures such 'conceptions of the desirable', in other words the values AFNs aim to achieve. Although not an exhaustive list, these can be classified into different types. For example, those related to production and environmental sustainability such as organic production, pesticide free and animal welfare

(Conner et al. 2008, Padel et al. 2009, Laursen and Noe 2017). There are also ethical values like trust, transparency, care, social connectedness and fairness (DuPuis and Goodman 2005, Kneafsey et al. 2008b, Thorsøe and Kjeldsen 2016). Additionally, there are values framed within social sustainability, for example, social equity, democracy, social justice, social responsibility and inclusiveness (Feenstra 1997, Allen et al. 2003, Laursen and Noe 2017). Hedonistic values are also identified like eating seasonally, health, freshness, taste and status (Hashem et al. 2017). There are values related to economic sustainability such as fair pay for farmers (Pretty 2001, Galt 2013). Finally, there are values associated with everyday living such as convenience and price (Brown et al. 2009). All these values motivate, guide and help justify producers, retailers, processors and consumers' involvement in AFNs. They enable people to decide that the desire to participate within an AFN is worthy of pursuing.

There is also AFN literature that discusses the economic perspective. Laursen and Noe (2017) argue that AFN literature interprets values as a way to add value to a food product and therefore increase its value in economic terms. For example, if a producer chooses to farm within organic certification rules he/she adds the value of environmental sustainability which in turn allows the farmer to charge a higher price. But, what happens with values that cannot be monetised? It could be argued that Watts et al. (2005) answer this question when they propose 'weaker' and 'stronger' AFNs. Weak AFNs, which focus on the product, are so because they monetise values and therefore are more open to appropriation from conventional food systems. For example, PDO or PGI products sold at supermarkets. Whereas strong AFNs, which are based on a system, are so because they are based on an alternative spatial, social and economic rationale. Hence, they are less vulnerable to appropriation because the alternative rationale cannot be monetised. For example, farmers' markets, box schemes and CSAs. However, it could be argued that the alternative rationale is also monetised because it allows strong AFNs to charge more than supermarkets. Value in the economic sense is also

analysed by Hinrichs (2000) who argues that values such as social capital and trust are not the only ones present in economic transactions within AFNs. Self-interest and price are also present which drive actors to maximise profit. That is because in an economic transaction a producer and a consumer know what each want and each is trying to achieve it by investing as little resources as possible.

Finally, the linguistic perspective is discussed by authors like Kirwan et al. (2017) and Bui et al. (2019), who identify that food systems are conceptualised under different paradigms which are underpinned by a set of values. Essentially there are two paradigms. One is the agro-industrial paradigm which is based on industrialisation, standardisation and globalisation (Bui et al. 2019). Here values such as efficiency and innovation lead to productivity which allows food systems to feed a growing population. This is achieved through technological innovation such as GMOs and sustainable intensification (Kirwan et al. 2017). The second paradigm is an integrated territorial paradigm which is based on values of diversity, de-concentration of the food supply, and reconnection of food in social, cultural and physical terms (Bui et al. 2019). Productivity is important but not as much as values such as the carrying capacity of a territory, fairness and sustainability (Kirwan et al. 2017). Both authors argue no food system is completely one or the other. Instead, food systems borrow from each paradigm to form their own set of values. However, what these conceptualisations demonstrate is the need for meaningful difference in the discourse. That is to set out what is conventional and what is alternative about food systems to find the value of both within a food system. Having established how values are discussed within AFN literature the chapter now moves to discuss the evolution of AFN literature and the origin of the thesis' research question.

1.5 Evolution of AFN literature

Early AFN literature aims to establish the difference between it and conventional food systems. To this end the literature extolls AFN values, which are achieved through characteristics, to establish how much better AFNs are over conventional food systems (Tregear 2011). Quality, local and strong relationships are characteristics particularly celebrated and analysed in this early literature as each is identified by researchers as the determining factor of AFNs (Ilbery and Maye 2005). However, they are not mutually exclusive, and authors tend to draw from several characteristics therefore conflating them (Tregear 2011). Due to brevity and clarity, they will be presented here separately.

Quality is a socially constructed concept (Ilbery and Kneafsey 2000) which includes ideas of nature, tradition, taste, culture, traceability, aesthetic attributes and nutrition. Given these attributes, quality food is inherently of higher standard than industrial foods (Murdoch and Miele 1999). Quality addresses the needs of individual consumers, communities and nature. It can be subversive, as a political response to the conventional food system; expressive as it features artisanal production processes typical of certain regions; and integrative as it brings together producers and consumers (Murdoch and Miele 1999, Sage 2003, Sonnino and Marsden 2006). As such the ‘quality turn’ is the increased demand for food that is of higher quality (Winter 2003).

AFNs ‘re-spatialise’ food, meaning it is anchored to a place or it is local (Marsden et al. 2000). They create spaces where economic transactions are aligned to local community norms, values and culture. Trading at the local level helps farmers reduce risks to enter the market. Thus locality encourages entrepreneurship and contributes to local economic development (Lyson et al. 1995), especially in rural areas (Ilbery and Maye 2006). Local food celebrates regional food specialities which can become protected with geographical

indication labels such as Protected Designation of Origin (PDO) or Protected Geographical Indicator (PGI). Local food travels less distance therefore it is assumed to generate a lower environmental impact (Lamine 2015) and adapts to the qualities of a locality therefore limiting globalisation of food as taste, tradition and food culture are specific to a nation, region and local area (Nygard and Storstad 1998).

AFNs allow food to be re-socialised, in other words to enable relationships between producers and consumers. Together they build strong relationships that give new value and meaning to food (Marsden et al. 2000:425). The distribution of value through the network, connectivity, reciprocity and trust building are achieved through strong relationships (Whatmore et al. 2003). Therefore, strong relationships are essential to the economic activity of AFNs because they modify the way in which actors behave economically. This means that economic transactions are socially embedded because actors mediate between self-interest and the wider common good allowing decent livelihoods for farmers whilst protecting the environment (Hinrichs 2000, Sage 2003). Strong relationships lead to communities built around food production and consumption. They are sites of resistance working towards inclusivity, social justice and environmental sustainability. They can engage with issues about race, class and gender in both urban and rural areas, address the needs for an equitable access to food and participate in democratic processes that shape local food systems (Kloppenburger 1996, Allen et al. 2003)

However, subsequent literature takes a more critical view of AFNs, evidencing that the characteristics described above do not inherently lead to positive social, economic and environmental values or that the characteristics and values are not exclusive to AFNs. Therefore, Allen et al. (2003) and Whatmore et al. (2003) ask if AFNs are different to conventional food systems? Here those criticisms are presented within the same structure of

quality, strong relationships and local, although as mentioned before authors tend to merge these characteristics.

Ilbery and Kneafsey (2000) argue that quality is more subjectively than objectively defined. Objectively, quality can be externally verified, controlled and replicated through for example certification. But subjectively quality can be defined through attributes such as texture, flavour, taste, freshness and appearance. Such subjectivity makes quality easily appropriated by the conventional food system. Therefore, Watts et al. (2005) argue that AFNs based on quality products are weak. Murdoch and Miele (1999) and Trabalzi (2007) evidence how quality products are produced by both conventional and alternative actors thus demonstrating that quality is not exclusive to AFNs.

A second set of criticisms is based around the idea of local. Born and Purcell (2006) argue that there is nothing inherent about scale because the meanings attributed to scale are socially constructed. Local or transnational food systems can be equally just or unjust, sustainable or unsustainable and secure or insecure. Local is appropriated by actors to achieve their own goals which can be positive or negative (Winter 2003, DuPuis and Goodman 2005).

Moreover, the term local lacks clarity in its definition. Even when it is used to mean a physical distance local can be within a county, a region or a country, or within 20, 30 or 50 miles (Ilbery and Maye 2006). Finally, some products that are defined as local do not source their inputs or are not retailed within the locality (Ilbery and Maye 2005). As such, local is sociologically constructed and must be seen rather as a strategy to achieve other desirable outcomes such as ecological sustainability, social justice etc (Born and Purcell 2006).

AFN literature has also critically analysed strong relationships and the assumed inherent desirable outcomes they bring. It is assumed that strong relationships create trust. DuPuis and Goodman (2005) argue that relationships are not always equitable and therefore trust is not

always achieved, especially in relationships between rural producers and urban consumers where power has been historically held by the latter. This translates into economic transactions where self-interest and price are also influencing elements (Hinrichs 2000). As such, farmers within AFNs are not always able to earn a fair wage (Galt 2013). Finally, communities are not inherently sites of resistance resolving issues of race and inequality. The rights of migrant workers in AFNs are ignored (Trauger 2007), modern AFNs focus on providing an alternative to the conventional food system rather than challenging its practices, such as worker rights (Allen et al. 2003), not everyone can access food through direct marketing schemes and low-income families cannot afford food traded through AFNs (Allen et al. 2003, Trauger 2007, Andreatta et al. 2008).

Amongst the backwards and forwards between extolling and criticising AFNs emerged a new type of AFN literature. A global food security crisis initiated with the international food price inflation of 2006-08. Food riots in over 30 countries and the overthrow of two of national governments evidenced this crisis. It is now recognised that the cause is structural because the system to ensure food security heavily relies on almost depleted natural resources and ignores issues such as climate change, peak oil, water scarcity, soil degradation and population growth. Within this context new types of AFNs emerged which are more focused on community and self-help such as allotments, community gardens and orchards, land and crop share schemes, food coops, transition networks and organisations implementing alternative ways of aggregating and distributing sustainable food (Goodman et al. 2012).

Food sovereignty is the right that communities have to determine their own food system, to produce food, and to establish the level of self-reliance rather than this being dictated by international organisations and multinational corporations. Although it was conceived originally by peasant movements in poor countries fighting against conventional food systems, it has become a powerful concept in rich countries where communities are also

facing the unfairness of the conventional food system (Pimbert 2009, Block et al. 2012). Therefore, food sovereignty exemplifies not only a new paradigm in terms of food security but also an expression of the potential of social movements to change an unfair food system and a call to action to disadvantaged communities in rich countries. AFN literature evolved with these new developments and captures these new types of AFNs, the power of social movements and the importance of food governance in concepts such as civic food networks (Renting et al. 2012) and sustainability transitions (Maye and Duncan 2017). But despite this evolution in the literature the debate of whether AFNs are different to conventional food systems was not resolved.

1.6 Contextualising the importance of the thesis within AFN literature

The previous section discussed AFNs as an alternative to the conventional food system. Alternative is therefore conceptualised as practicing the opposite values of the conventional food system (Holloway et al. 2007, Maxey 2007). However, subsequent critical literature demonstrates that such alternativeness is not consistently demonstrated throughout all AFNs. As such, the concept of alternative becomes problematic because alternative and conventional food networks are ‘separate if intertwined’ (Holloway et al. 2007:2) meaning they interact and borrow from each other. Studying AFNs as alternative leads to a dismissal of AFNs for being imperfect, because they do not practice all values, thus encouraging reductionist thinking and missing the opportunity to question the reasons for such imperfection (Maxey 2007, Tregear 2011).

Hence, the concept of hybridity emerges to accept that AFNs are imperfect because they borrow from conventional and alternative values and practices. Several authors identify such hybridity, for example in the way conventional and alternative actors are involved in AFNs’ supply chains (Ilbery and Maye 2005); in the way industrial and artisanal processes are

implemented to produce quality products (Trabalzi 2007), and the way in which actors balance conventional and alternative values to practice AFNs (Forssell and Lankoski 2017). As such, in answer to the question are AFNs different to conventional food systems, it is proposed that AFNs are different to the conventional food systems but to various degrees depending on how they implement conventional and alternative values. Therefore, the next question is ‘how’ are AFNs different to the conventional food system?

AFNs differentiate themselves from the conventional food system by promising to be sustainable (Forssell and Lankoski 2014) through the implementation of sustainable values. Although several authors discussed the potential contribution of AFNs to sustainability, mostly by way of environmental sustainability (Sonnino and Marsden 2006, Born and Purcell 2006, Maxey 2006), Maxey (2007) was the first to propose that sustainability can encompass all the values of AFNs. As such, he argues that AFNs should be reframed from alternative to sustainable. The author provides several reasons. First, because practitioners better identify themselves with sustainability than with alternative. Alternative places them in a marginal position whereas sustainability places them as part of a solution and in discourses amongst people, media and government. Second, sustainability highlights the unsustainability of conventional food by featuring examples of sustainable food systems. Third, sustainability engages with the values identified in AFN literature explicitly and actively. Environmental sustainability brings together values of environmental protection through benign production practices and reduced food miles. Social sustainability engages with community cohesion through food production and consumption and the abolishing of racial, class and gender inequalities in food systems. Economic sustainability incorporates values of fair pay for farmers, and the fair distribution of value and trade practices amongst the partners in the supply chain. A fourth reason to reframe AFNs as sustainable is that sustainability helps surpass the oppositional conceptualisation between alternative and conventional. However,

this must be done through a definition that acknowledges sustainability's uncertainty, mobility, slippery and pliable nature (Buttel 2006, Ilbery and Maye 2005, Maxey 2007, Hinrichs 2010). As such, Maxey (2007) suggests that sustainability should be defined as socially and politically constructed. To analyse it, it must be conceptualized as a process in which those involved are continually asking themselves what they aim to sustain and how. If sustainable food is conceived as a given entity which can be measured against a predetermined checklist then it also falls into the oppositional conceptualization of alternative therefore carrying the same problems.

The local trap 'is the tendency of food activists and researchers to assume something inherent about the local scale' (Born and Purcell 2006:195). The authors argue that critical literature does not offer a theoretical solution to the local trap. That is that despite researchers knowing that AFNs are not inherently good, they still appeal to AFNs as a solution to the conventional food system, thus still assuming they are inherently good. Asking 'how', instead of 'if', AFNs are different to conventional food systems is a way to escape the local trap. It makes explicit the values that are different and similar to conventional systems. Early literature assumes that AFNs practice sustainable values. Subsequent critical literature evidences conventional values are also practiced. As such, the piece of the puzzle missing to understand how AFNs are different to conventional food systems, is evidencing how sustainable values are practiced, however, acknowledging that there are conventional values also practiced. Thus, asking 'how' uncovers the hybridity in the practices they implement and the reasons for it. Asking 'how' leads to a closer look at the operational characteristics of AFNs and to analyse how these align or differ from conventional food systems. Sustainability defined as a process fits with the ambivalent definition of AFNs between sustainable and conventional values. That is because those involved ask themselves what they aim to sustain and how. By doing so they implement sustainable and conventional values. As such, the

question of how AFNs are different to conventional food systems is reframed through sustainability. This research therefore contributes to the understanding of how AFNs are different from conventional food systems and thus its aim is to determine how and to what extent sustainability values are practiced by box schemes and CSAs whilst being mindful of their hybrid nature.

1.7 Research gap and contribution to knowledge

There is a need for sustainability assessment tools to help consumers and decision makers make informed choices (Ness et al. 2007, Brunori et al. 2016). Therefore, the purpose of those tools is to judge whether something is or not sustainable to then inform consumers or decision makers. For over two decades a significant number of sustainability assessments have been created to evaluate the performance of the food sector. Although not an exhaustive list, (Schader et al. 2014) examples include Agri-LCA, AUI, AVIBIO, CAPRI, COSA, DairySAT, DLG-Zertifikat, DRAM, FARMIS, FESLM, LCA, GEMIS, IDEA, IFSC, ISAP, KSNL, MODAM, MOTIFS, PASMA and PROSA. Despite sustainability assessments sharing the same aim, there are significant differences between them. They can vary in terms of the purpose of assessing sustainability (scientific, monitoring and certification, consumer trust, regional planning, improve practice or for policy advice), what they assess (the agricultural sector of a country, region, landscape or farm, a product, or a supply chain) and the industry they assess (dairy, meat or all agricultural industries) (Schader et al. 2014). The way in which sustainability assessments have developed has raised several observations and criticisms. First, that instead of taking a holistic approach to sustainability, that is addressing social, economic and environmental aspects, sustainability assessments tend to focus on one or two aspects as demonstrated by LCA assessment which mostly focuses on the environment (Schader et al. 2014). Second, that a one-size-fits-all solution to assess sustainability is impossible because sustainability assessments are designed for specific

purposes (Alrøe et al. 2016). Third, that sustainability assessments are expressions of power because those who design them, which in many cases are academics, decide what sustainability is and how it should be practiced and assessed (Maye and Duncan 2017). This criticism has led to identify the need for including different knowledges and stakeholders in the design of sustainability assessments. Finally, that sustainability assessments should be able to expose the values of a food system and therefore relate ethical principles to societal goals and the interests of stakeholders (Alrøe et al. 2016).

Given these criticisms one can question if these tools are suitable to assess the sustainability of AFNs. Whilst AFNs aim to deal with social, economic and environmental issues, these tools most often deal with one or two aspects. Second, if sustainability assessments are designed for specific purposes, is it suitable to use tools designed for the global, multinational or conventional supply chain to assess the local, small and medium size firm or alternative supply chain? Third, are these sustainability tools suitable when they have not considered the knowledge and opinion of those involved in AFNs? And finally, since values are critical to AFNs, are sustainability assessment tools taking into consideration such values and exposing them in their results? The GLAMUR project addressed these questions by taking a holistic approach to the analysis of local and global supply chains of seven sectors: apples, berries, bread, cheese, pork, tomatoes and wine. To define sustainability the project analysed sustainability discourses in public, scientific, market and policy spheres thus taking into consideration the knowledge and opinions of different actors. But crucially, GLAMUR is unlike other sustainability assessment tools because its aim is to uncover heuristics or approaches to practice sustainability. In that way GLAMUR does not judge which supply chain is more sustainable but rather uncovers the practices that enable or hinder sustainability (Brunori et al. 2016, Kirwan et al. 2017).

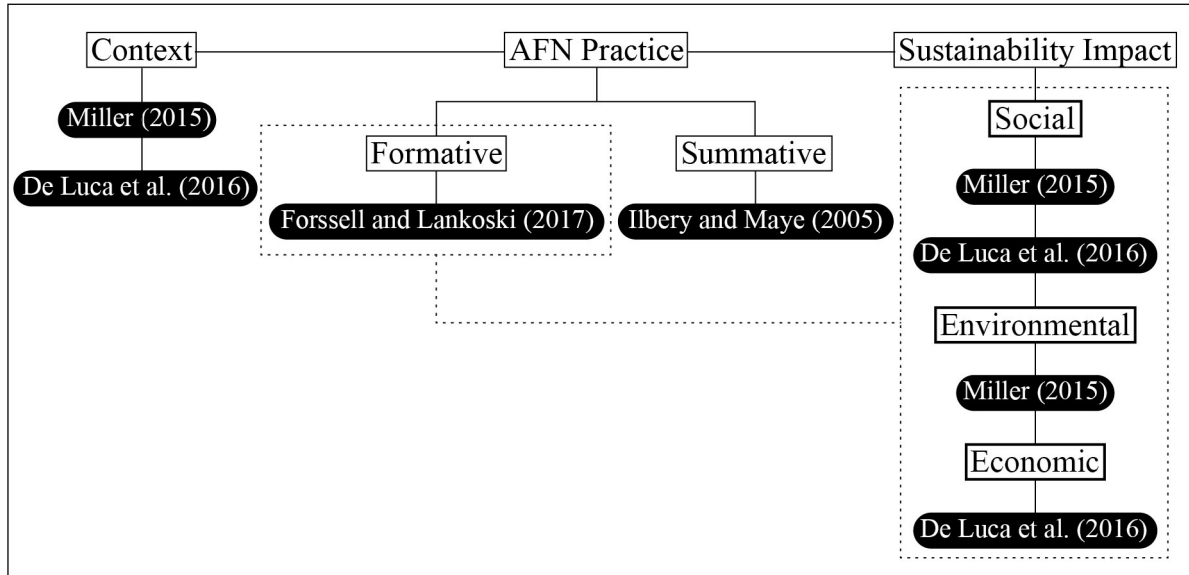
Like GLAMUR this thesis also takes a heuristic approach. As such this research does not aim to assess but rather to understand how sustainability is practiced and to what extent.

However, unlike GLAMUR the object of this research is box schemes and CSAs. Thus, instead of focusing on a product, the thesis focuses on the enterprise. Given this focus and using the definition of sustainability as socially and politically constructed (Maxey 2007), the thesis aims to show what sustainability is for box schemes and CSAs based on their operational and financial characteristics.

Sustainability has been discussed in AFN literature. Michel-Villarreal et al. (2019) conducted a systematic literature review of sustainability in AFNs and found 61 references. However, some of the papers included in the review skirt around the study of sustainability in AFNs to focus on behaviours, cultural advantages and methods that contribute to sustainability. For example, some concentrate on consumer behaviour to achieve sustainable consumption. Hayden and Buck (2012) discuss how the interaction of CSA customers with farmers and food growing affect their environmental ethics, Seyfang (2008) studies consumers' motivations to purchase from AFNs and finds that their motivations align with the aims of AFNs to achieve social, economic and environmental sustainability. Other references concentrate on the cultural advantages of other countries when implementing sustainable practices. Omoto and Scott (2016) discuss the benefits of introducing organic certification into Vietnam where peasant techniques are already sustainable and Bellante (2017) reveals the strong commitment to building a sustainable community economy through AFNs in Mexico. Two references identify practices that are not intended to be sustainable but that contribute to sustainability or 'quiet sustainability'. Smith and Jehlička (2013) and Sovová (2015) analyse quiet sustainability practices through food growing in post-socialist countries. Finally, Tavella and Papadopoulos (2017) analyse tools to resolve problematic situations that

limit decision-making and strategic planning in AFNs which threaten their long-term sustainability.

Figure 1.1: Current research on the practice of sustainability in AFNs



Source: Author

A few papers study the sustainability of AFNs using empirical research. These include Ilbery and Maye (2005), Miller (2015), De Luca et al. (2016) and Forssell and Lankoski (2017).

Figure 1.1 maps the contributions of these papers to the understanding of how sustainability is practiced by AFNs. These papers analyse three elements: context, which refers to the contextual factors that shape sustainability; AFN practice means the study of aspects involved in the practice of sustainability; and sustainability impact which analyses the social, economic and environmental effects of AFNs. Luca et al. (2016) argue that the sustainability impact of AFNs is shaped by the context where they are practiced. Using conventions theory, the paper identifies contextual factors such as the agricultural sector, social dynamics and political legislative processes which shape the sustainability impact of AFNs in Calabria, Italy. As such the paper explores context and social and economic sustainability impacts. Similarly, Miller (2015) evidences the social and environmental impact of allotment sites in Plymouth, UK. To achieve such impact, they require natural, economic and political capital.

These capital assets are identified through the capital assets framework. The paper argues that an analysis of contextual requirements is necessary to influence policy agendas so that AFNs such as allotments can contribute to a greater extent to social and environmental sustainability. Thus, like the former paper, Miller (2015) analyses context and social and environmental sustainability impacts. Drawing from Fitzpatrick et al. (2012) AFN practice can be divided into formative which are studies that aim to explain; and summative which are studies that aim to evaluate. Forssell and Lankoski (2017) is a formative study as it explains how alternative food retailers negotiate conventional and sustainable values to arrive at an acceptable practice of AFN. Here conventions theory is employed to discern the complexity and relational nature of conventional and sustainable values. Ilbery and Maye (2005) is a summative study as it measures the sustainability of speciality food supply chains in rural areas in the Scottish/English borders. They use the sustainable food criteria proposed by the UK campaigning charity Sustain.

The dotted line in Figure 1.1 shows where this research is situated within the existing literature. It analyses AFN practice through a formative approach as it aims to determine how and to what extent sustainability values are practiced by box schemes and CSAs. By doing so the research discusses the social, economic and environmental impacts of box schemes and CSAs. As such the dotted line surrounds the formative element of AFN practice and extends to the sustainability impact element of the diagram. This research departs from this literature in several ways. First it analyses box schemes and CSAs which, with the exception of de Luca et al. (2016), none of the papers explore. But, de Luca et al. (2016) is in an Italian context and includes other AFNs such as farmers' markets and farm shops. Second, its aim is novel and fulfils a research gap as none of the papers found aim to determine how and to what extent sustainability values are practiced. Thirdly, the conceptual frameworks of these papers include conventions theory and capital assets framework. Instead this research

proposes a new conceptual framework that is like a quilt. It combines analytical tools from Alternative Food Networks (AFN) literature, Values Based Supply Chains (VBSC) literature and business studies literature. Moreover, this conceptual framework allows the research to study sustainability through a ‘bottom-up’ approach to understand how it is socially and politically constructed by each case study. Finally, like Forssell and Lankoski (2017), this research discusses the trade-offs, or the choices box schemes and CSAs make to practice sustainable values. But it goes beyond their study by linking sustainability impacts to trade-offs. As such, this research is novel in that it furthers the understanding of how AFNs are different to conventional food systems by understanding how sustainability is practiced, proposing a new conceptual framework which allows the study of sustainability from a bottom up approach and by doing so uncovering trade-offs and their sustainability impact.

1.8 Aims and objectives and structure of the thesis

The research has one aim and three objectives as follows:

Aim:

To determine how and to what extent sustainability values are practiced by box schemes and CSAs in England and Wales.

Objective 1

Establish the operational and financial characteristics of box schemes and CSAs.

Objective 2

Develop a methodology to analyse how sustainable values are practiced by box schemes and CSAs using operational and financial data.

Objective 3

Analyse how and to what extent sustainability values are practiced, using operational and financial characteristics to evidence how they are prioritised, traded-off and the extent of their practice.

This thesis is structured into seven chapters. Chapter 2 discusses the conceptual framework. It will set out the analytical tools that will be used by the methodology to study the practice of sustainability values within AFNs. The chapter will argue that operational and financial characteristics are the appropriate data to use in this research as these are a result of how sustainability values are practiced and traded-off. As such, this chapter contributes to the objectives by justifying the need for objective 1 and setting out the conceptual framework for the new methodology of objective 2. Chapter 3 will discuss pragmatism and mixed methods as a suitable paradigm and methodology because both allow the use of quantitative and qualitative data. The chapter will describe how a National Box scheme and CSA survey was designed and the challenges involved. It will also provide a description of case studies and will recount the three analytical processes implemented by the research where a range of methods were implemented. Chapter 4 fulfils objective 1 by setting out the operational and financial characteristics of the case studies. Objectives 2 and 3 are fulfilled through Chapter 5 and 6. Based on the characteristics, Chapter 5 will identify the most important values box schemes and CSAs practice: principle value and commercial behaviour. This is the first part of the methodology. The second part is Chapter 6 which will analyse how the principle value and commercial behaviour impact on other sustainability values. This analysis will lead to a discussion of how case studies trade-off sustainability values. Chapter 7 will analyse the meaning of the results and how these fit within AFN literature. It will also discuss the limitations of this study, future research and recommendations.

1.9 Summary

This chapter introduced this thesis by setting out what the thesis is about, why the topic of study is important and how the thesis is laid out. This thesis is about how and to what extent sustainability values are practiced by box schemes and CSAs in England and Wales. This chapter has argued that understanding how and to what extent values are practiced is important because it explains how AFNs differentiate themselves from the conventional food system. The last section of the chapter presented the aim and objectives of the thesis, discussed how the thesis is laid out and how each chapter fulfils the aim and objectives.

The chapter contextualised AFNs in relation to the conventional food system and the organic industry. Then, it discussed the challenges in differentiating between box schemes and CSAs. Following this the chapter reviewed early and critical AFN literature to evidence that AFNs are not just in opposition to the conventional food system, but they borrow values and practices from it. Next, the chapter evidences that the difference between AFNs and conventional food systems has not been established and argues that this can be done by analysing how and to what extent sustainability values are practiced. After, the research gap in the study of sustainability in AFNs is demonstrated. Finally, the chapter sets out the aim and objectives and the structure of the thesis. The following chapter will continue the literature review started in this chapter. However, this is with the purpose of establishing that AFN literature does not have all the analytical tools necessary for this research. As such it will review VBSC and business studies literature to draw the analytical tools needed.



Chapter 2

Conceptual Framework

2.1 Introduction

This chapter aims to present the conceptual framework. This research aims to understand how values are practiced by AFNs. To this end this thesis needs to design a conceptual framework that draws from a range of literatures because not one single literature has all the analytical tools necessary to answer the research question proposed. As such the conceptual framework presented here is a quilt of analytical tools from Alternative Food Networks (AFN) literature, Values Based Supply Chains Literature (VBSC) and business studies literature.

As the conceptual framework is a quilt of analytical tools, the chapter is structured by the literatures it draws from. It begins by discussing what it is meant by sustainability values through a sociological, economic and linguistic perspective. Then it discusses the importance of viewing AFNs as hybrid to avoid making assumptions and connotations. The methods used to study hybridity are analysed to argue that to understand how AFN values are practiced the research needs to study the operational characteristics of box schemes and CSAs. This is because operational and financial characteristics evidence how conventional and sustainable values are operationalised. The limitations of AFN literature are discussed next, to evidence

why this literature does not provide the analytical tools needed for this research. The chapter then moves on to analyse VBSC literature. This section discusses its origins, development and the reasons why it approaches AFNs from a pragmatic perspective. This perspective has allowed for a deeper investigation of operational and financial characteristics which will be borrowed for this framework. Despite its virtues, VBSC literature also has limitations in the context of this research, the chapter thus explains such limitations and why, as with AFN literature, it cannot be fully used to answer the research question. After this analysis, competitive strategy is introduced. The relevant aspects of competitive strategy are explained to argue that it serves as a link between AFN values and operational characteristics. It allows for the research to identify AFN values from the operations rather than from the opinions or reflections of participants. Finally, sustainability is discussed drawing from AFN literature. This section argues that sustainability should be analysed as a process. Therefore, how each AFN interprets, and practices sustainability is different. Each AFN has its own version based on its values which reflects what they aim to sustain. To understand this process the research draws from Forssell and Lankoski's (2014) framework which presents the links between AFN characteristics and sustainability values. This framework is used as a base to link operational and financial characteristics to AFN characteristics and values. Doing so demonstrates how sustainability values are operationalised and thus how sustainability is practiced by box schemes and CSAs. This analysis highlights the trade-offs enterprises make to achieve sustainability. Trade-offs are discussed at the end of this section.

This thesis aims to understand how sustainability values are practiced by AFNs. This chapter presents the conceptual framework to achieve the aim. The framework takes into consideration social, economic and environmental aspects which makes it novel because as argued by Forssell and Lankoski (2014) sustainability values tend to be studied in isolation,

for example only social justice or fair pay to farmers, thus making it hard to form an overall picture of the sustainability of AFNs.

2.2 Defining sustainability values

Chapter 1 argued that the difference between AFNs and conventional food systems is that they aim to be sustainable through the implementation of sustainability values. So, what it is meant by sustainability values? Forssell and Lankoski (2014) propose a framework which relates AFNs characteristics to potential social, economic and environmental sustainability impacts. In other words, characteristics that distinguish AFNs are the vehicle for impacts to occur. The framework lists several impacts: environmental such as protection of the environment, animal welfare, reduced emissions and fuel use; economic like producer livelihoods, employment creation and support for the local economy; and social impacts including consumer health, producer health and safety, food access, preservation of food culture.

The previous chapter discussed that value or values can be defined through a sociological, economic or linguistic perspective (Graeber 2001). Sustainability values, as defined within this thesis, can also be defined through these perspectives. For the sociological perspective values means ‘conceptions of the desired’ which means not just what people want but what they should want. Eriksen (2013:53) argues that values in AFNs ‘motivate action, and express and justify the solutions chosen’. From this perspective it is argued that the impacts that Forssell and Lankoski (2014) propose are sustainability values. That is because these impacts are the ‘conceptions of the desired’ of the actors involved in AFNs. They are what those involved in AFNs want to achieve: protect the environment, ensure producer’s livelihoods and access to food to name a few. These impacts or sustainability values motivate actors to take part, and express and justify their participation within AFNs. Since these

outcomes can be framed within social, economic and environmental sustainability they are sustainability values as argued by Maxey (2007).

Having used the sociological perspective does not mean that sustainability impacts or values cannot be viewed from the economic and linguistic perspective. In terms of the economic, Galt (2013) proposes there are two economic rents: the price premium which means that if a consumer appreciates the production characteristics of a product, for example organically grown or produced under artisanal techniques, he/she will pay a higher price for such product. The second is community economic rents. These rents are generated from the capacity AFNs have to create legitimacy with consumers (Mount 2012). Consumers pay more at AFNs than they would otherwise because of the sustainability values (in the sociological sense) AFNs aim to uphold which create legitimacy. Graeber's (2001) economic perspective is based on the maximisation idea, that people want to minimise their input and maximise their output. Consumers are maximising. They want to take part in a food system underpinned by sustainable values, but they minimise their input by putting the AFN in charge of practicing such values. As the AFN practices sustainability values, customers maximise their output because they can claim such values as their own through their economic support to the AFN. As such, the impacts proposed by Forssell and Lankoski (2014) or sustainability values as defined here, are not only important in terms of mobilising actors into action but also to give economic value to the AFN.

The final perspective is linguistic which means values are embedded in words and thus words influence human behaviour. Forssell and Lankoski's (2014) framework shows the relationship between sustainability values and AFN characteristics which are: requirements for products and production, reduced distance, governance and strong relations. However, the first three characteristics can also be named organic, local food and fair trade. These words are important because they are embedded with values and therefore academics and practitioners

use them to describe the sociological and economic value of AFNs. But the problem of doing so is that it is not clear which sustainability values can be attributed to certain AFN characteristic, a phenomenon Tregear (2011) calls conflation. For example, local food cannot be assumed to generate environmental sustainability impacts because it can be produced with agrochemicals. Therefore, what Forssell and Lankoski's (2014) framework does is to establish which sustainability values can be attributed to each AFN characteristic. The value that is given to organic, local food and fair trade further evidences why the impacts should be interpreted as sustainability values. These words encapsulate such values, even when it is not completely clear, and by doing so they inspire people to act. Their value is that they can communicate abstract ideas but also concrete actions, for example buying food from a box scheme or CSA (Laursen and Noe 2017).

Chapter 1 mentioned other types of values found in the literature alongside social, economic and environmental sustainability: ethical, everyday living and hedonistic. It is argued that ethical values such as trust, transparency, care, social connectedness and fairness underpin AFNs (Sage 2003). These values are discussed in the context of the economic exchange between producers and consumers in an AFN. Social embeddedness means that actors share ethical values and therefore values mediate the self-interest that may drive the economic transaction. However, these values are not only present in an AFN transaction but in any economic transaction (Hinrichs 2000, Winter 2003). As such, they are not exclusive of supply chains aiming to be sustainable but of any supply chain. For example Japanese car manufacturing firms structure their supply chains in the principle of co-existence and prosperity where all those involved in the supply chain, including suppliers, trust that each actor looks after the welfare of the rest and 'will not seek to exploit others' vulnerabilities' (Stevenson and Pirog 2008:130). Therefore, ethical values, although important in AFNs are not exclusive of AFNs. Similarly, everyday living values such as convenience and price.

These are also practiced by supermarkets (Seyfang 2008, Kneafsey et al. 2008b). The other type of values mentioned in Chapter 1 is hedonistic values. Forssell and Lankoski (2014) encapsulate these values within consumer health. This is a critical value as it motivates consumers to take part in AFNs (Seyfang 2008, Brown et al. 2009, Hashem et al. 2017). However, hedonistic values can be interpreted as a result of AFNs as well as a main driver of AFNs. As such, the other values identified in Chapter 1 are either not exclusive to AFNs or are not the main driver of AFNs and therefore they are not suitable to define the value and purpose of AFNs.

2.3 Hybridity in AFNS

Early AFN literature proposed a dichotomy between alternative and conventional food systems. The word ‘alternative’ is used in the literature in different ways. In the European context alternative is used to denote food systems that contribute to the survival of small rural businesses against the threat of large-scale food processing and retailing corporations. As such, it is focused mainly on rural development. Literature from the United States uses ‘alternative’ to denote systems that stand for alternative economic relationships and, social and environmental justice. Therefore, AFNs are politically in opposition (Goodman 2003, Holloway et al. 2007). The conventional food system is the other half of the dichotomy. It is in opposition to the survival of small rural businesses, alternative economic relationships and, social and environmental justice because its principle value is superior profitability. This has detrimental effects to rural life, the environment and people’s health as discussed in Chapter 1.

However, conceptualising AFNs as opposite to the conventional food system is problematic (Holloway et al. 2007, Bloom and Hinrichs 2010, Tregear 2011) because both systems are not in complete opposition to each other. The conventional food system is or is moving

towards sustainability. For example, the focus on profitability makes them economically sustainable. In terms of production practices, conventional food systems are moving towards environmental sustainability by implementing practices like low input farming and integrated pest management (IPM) methods (Reganold et al. 2001). As such, conventional food systems borrow values and practices from AFNs.

Similarly, AFNs borrow from both conventional and alternative values and practices and are not absolutely an opposite to the conventional food system. AFNs are hybrid. For example, Watts et al. (2005) find that there are weak AFNs because they are based on quality products which can be easily appropriated by the conventional food system. And there are strong AFNs which are based on networks thus operating away from the conventional food system. The problem with defining AFNs as the opposite of conventional food systems is that to progress knowledge it is not enough to just label them alternative because their complexity and the differences are then missed. But, more problematic is that in practice AFNs rarely operate in isolation from the conventional food system (Tregear 2011). As such a binary definition is not a true reflection of what happens in practice.

Another problem is that a dichotomy paints a homogenous picture of what AFNs are. AFN conceptualisations identify a common feature. For example, Short Food Supply Chains are based on the idea that AFNs 'engender different relationships with consumers' (Marsden et al. 2000:425). The 'Quality turn' proposes that AFNs trade quality products. Finally, social embeddedness suggests that economic transactions in AFNs prioritise non-economic values. Although these conceptualisations have been suggested with the purpose of understanding AFNs in general they also paint a somewhat homogeneous picture of AFN (Allen et al. 2003). Hybridity breaks such homogeneity especially when AFNs are studied at the individual level (Watts et al. 2005). Indeed, several researchers refer to the wide differences between AFNs. For example, Allen et al. (2003) identifies how older and newer AFNs

practice social justice in different ways. Holloway et al. (2007) propose a methodology that aims to explore the complexities and relationalities of food production-consumption whilst accounting for the diversity and particularity of different AFNs. Finally, Forssell and Lankoski (2014) acknowledge that all AFNs do not exhibit the same characteristics.

Research has discussed three scenarios where hybridity in AFNs occurs. The first is how the mainstream food system appropriates AFN features and claims. Examples include the conventionalisation of organic agriculture (Sonnino 2019, Guthman 2007) or the way supermarkets appropriate ‘alternative discourses’ in their product development and marketing strategies (Jackson et al. 2007). However more relevant for this research are the other two. That is how AFNs involve conventional and alternative actors and how actors within AFNs balance conventional and alternative values (Bloom and Hinrichs 2011, Forssell and Lankoski 2017).

2.3.1 Conventional and alternative actors within AFNs

The involvement of conventional and alternative actors within AFNs has been studied in two ways. The first is by analysing production processes. Murdoch and Miele (1999) and Trabalzi (2007) focus on production processes to understand how conventional and alternative actors implement alternative and conventional production processes to manufacture differentiated products. Both studies are based in Italy, one focusing on the production of eggs and derived products and organic meat (Murdoch and Miele 1999) and the other on Protected Denomination of Origin (POD) Buffalo Mozzarella (Trabalzi 2007).

The worlds of production theory by Storper (1997) is used in both studies to characterise the manufacturing processes of these products. There are four worlds of production: industrial, interpersonal, market and intellectual. However, only the industrial and interpersonal are relevant as they map onto the dichotomy between the alternative and conventional food

system (Murdoch and Miele 1999). The industrial world characterises mechanised production processes typical of conventional food systems where there is mass production of food. The interpersonal world characterises traditional or artisanal production processes where products are higher quality and produced at lower quantities.

Both papers conclude that manufacturing processes do not fit neatly into one world of production. This is because enterprises, which are both conventional and alternative, implement a mixture of traditional and mechanised processes. However, they explain differently how this happens. Murdoch and Miele (1999) argue that enterprises move from one world of production to another through their products. Each product implements a different world of production, therefore moving the enterprise from one world to another. Instead, Trabalzi (2007:283) proposes that enterprises ‘exchange, borrow, absorb and appropriate practices, technologies, knowledge and conventions from all available models of production’. Differently to Murdoch and Miele (1999), Trabalzi (2007) acknowledges the influence of all four worlds of production and evidences that AFNs are never in one world of production but instead, they are in all of them. By analysing the manufacturing processes in detail, both papers demonstrate the hybridity of AFNs, not only in the actors involved and the products they manufacture, but also in the processes they implement.

The involvement of conventional actors has been studied also through mapping AFN supply chains. Ilbery and Maye (2005, 2006) map the supply chains of specialist producers and retailers selling local food. By doing so both studies identify who is involved in the supply chain and where they are located. Their research highlights the importance of the actors involved in a supply chain for the analysis of hybridity within AFNs. Kloppenburg (1996) proposes that AFNs should operate in isolation to protect themselves from the conventional food system. However, both studies find that specialist producers and food retailers not only include in their supply chains alternative but also conventional actors because the latter either

offer infrastructure not available in the area, inputs necessary for the production, or market channels that ensure the commercial success of the AFN. As such AFNs ‘dip in and out’ of different types of supply chains therefore evidencing they do not operate away from the conventional food system. Conventional actors play an important role as they contribute to the operational and economic capacity of alternative enterprises. For example, an abattoir, which is used mainly by conventional meat producers, is essential for processing organic meat products. Other conventional actors like suppliers of packaging, labels, or ice are essential to distribute products. Wholesalers are essential to supply retailers with variety to complement their local seasonal offer, therefore making it more attractive to customers. Finally, conventional retailers purchase higher volumes thus contributing significantly to the revenues of a specialist producer.

Another finding of Ilbery and Maye (2005, 2006) that demonstrates hybridity is how enterprises practice local food. Whilst there is no conclusive definition of local food (Ilbery and Maye 2006), a main characteristic of AFNs is that they operate within a locality. However, by looking at the actors involved in the supply chains and where they are situated, this main AFN characteristic is challenged. Ilbery and Maye (2005, 2006) find that actors located at different distances from the studied enterprises are considered local. This can be 20, 30 and 100 miles or within Britain. Moreover, in the case of retailers there seems to be a conflation between suppliers and producers. If both are operating locally, they are both considered local even though the supplier may be sourcing inputs or food products from further away. By enquiring about the actors involved in supply chains, Ilbery and Maye uncovered that they include both conventional and alternative actors thus demonstrating their hybridity.

2.3.2 Balance of alternative and conventional values

Hybridity in AFNs is also evidenced in how actors balance commercial and alternative values. Here it will be discussed in three ways: how actors balance economic and non-economic values in economic transactions, how customers balance motivations and practical needs and how AFNs must balance between implementing conventional and alternative practices to respond to customers' practical needs.

One of the main values of AFNs is ensuring fair prices for farmers which is achieved through social embeddedness. This concept proposes that actors prioritise alternative values (family, friendship, ethics) over conventional ones (economic). As such research is interested in understanding how alternative and conventional values are balanced. But Hinrichs (2000) proposes that marketness (price) and instrumentalism (self-interest) are always present in economic transactions no matter how socially embedded they are. For example, customers at farmers' markets expect the farmer to charge below what the scales register however, they pay a premium price. Farmers on the other hand depend on the income to maintain their farm businesses but they charge below what the scales register to build customer loyalty. At CSAs prices must be set at a point which is not too expensive to attract enough customers and not too cheap that they deter the CSA's finances. As such marketness, instrumentalism and social embeddedness are always being balanced to achieve both conventional and alternative values.

Several studies explore the motivations of consumers to buy from AFNs which mirror AFN values. Customers in AFNs want to reconnect with the food system by building strong relationships with the farmers that produce their food through face-to-face interactions. They want to ensure farmers are paid fairly and contribute to the development of the local economy. They want to contribute to environmental protection and to consume healthier and fresher food (Seyfang 2008, Brown et al. 2009, Hashem et al. 2017). However, customers

also evidence an alignment with conventional values, fostered by a sustained use of supermarkets. They report lack of convenience, choice and high prices as the factors that stop them from buying from AFNs. For example, customers prefer to eat unseasonal produce and to choose what they want to eat (Seyfang 2008, Brown et al. 2009), buying from AFNs increases household labour and is less convenient. Customers are often not organised enough to consume all the food they purchase and since food is fresh, it requires too much preparation time (Seyfang 2008, Brown et al. 2009, Galt et al. 2018). Indeed, convenience foods have helped to liberate women from household work and the constant pressure of providing a meal everyday (Tregear 2011).

From these findings it could be said that there are alternative and conventional customers, or as (Galt et al. 2018) propose ‘CSA people’ and ‘supermarket people’. Whilst CSA people relinquish convenience and choice and are more willing/able to pay more for their food, supermarket people choose to keep convenience and choice and pay for lower prices. However, Kneafsey et al. (2008) found that customers that buy from AFNs also use other sources including supermarkets. Between 10% to 25% of their food purchases came from an AFN and the rest from a combination of local shops, markets, speciality retailers, internet schemes and supermarkets. The authors found several reasons why customers purchased from a combination of sources such as location, variety, sold a special type of food or because staff are nice. Sometimes these reasons were contradictory but justified if considered how they fitted into the routines, lifestyles and priorities of customers. Therefore, customer demand is neither alternative nor conventional but instead hybrid. This is because the way in which they consume food is not only influenced by their motivations, which reflect AFN values, but also by their needs, in other words, how it fits with their routines, lifestyle and priorities. Indeed, Forssell and Lankoski (2017) conclude that customers expect AFNs to be alternative but not too alternative. So, it is the decision of the AFN to decide how alternative they wish to be.

AFNs have adopted conventional and alternative practices to respond to the hybridity of customer demand. Forssell and Lankoski (2017) found that alternative food retailers do things differently from the conventional food system like charging higher prices, offering less convenience and offering products in which quality is not the same as traditionally conceived. Deformed vegetables, for example. They also do things similarly to the conventional food system like selling imported food, non-organic and including packaging. Each case study combines these practices in different ways influenced by the AFN values they prioritised, the commercial success of their enterprises and hybrid customer demand. Similarly Galt et al. (2018) find that to retain customers, CSAs in the US are allowing their customers to customise their vegetable boxes to combat the lack of choice in these schemes. These practices show that AFNs cannot just prioritise AFN values, because customer retention, which leads to commercial success, is critical to stay in business. As such AFNs borrow from both conventional and alternative values making them hybrid.

The study of hybridity has contributed to this conceptual framework the insight that AFNs are hybrid, in other words that in practice they balance conventional and alternative values. Hybridity has been evidenced in the actors involved in AFN supply chains and how actors in AFNs balance conventional and alternative values. But hybridity also informs the type of data needed to study how AFN values are practiced, as discussed in the following section.

2.3.3 Hybridity and data

As this research acknowledges the hybridity of AFNs to understand how and to what extent sustainability values are practiced, it is therefore useful to analyse the methods used to study hybridity, specifically in terms of the type of data needed and the AFNs to be studied. The previous section presented papers that study hybridity in the actors involved in AFNs and the balance of conventional and alternative values. The type of data collected in these studies can

be broadly divided into two types. One collects information on the actual practices or operations of AFNs, for example the production techniques to manufacture a differentiated food product and the actors involved in a supply chain. The other type collects the opinions, views and motivations of those involved in AFNs. It is argued that to study how and to what extent sustainability values are practiced the research needs to understand how the enterprise operates, because operational characteristics lead to the understanding of how sustainability values are operationalised. As such, opinions, views and motivations are not useful in isolation because this type of data invites interviewees to reflect about the practices they implement. The data collected is therefore about how AFN participants interpret their practice and not about the practice itself. Albeit the way in which AFNs operate is the product of how individuals feel and reflect about sustainable and conventional values, there are also contextual and practical aspects such as the local environment, market forces and business development that also shape operations as found by Ilbery and Maye (2005). Dupré et al. (2017) is a good example of how operational characteristics contribute to the understanding of AFNs. The paper demonstrates the impact of crop diversity on job quality and satisfaction. As such, data focusing on the operational aspects of running an AFN is more suitable. As Trabalzi (2007) argues in the following excerpt it is by looking at the ways in which AFNs operate that researchers can understand the complexity of local food systems beyond how actors reflect about them to focus on how they actually operate:

‘The geography and the structural characteristics of production depict a local system made of discontinuous territories.... The meaning of such a structure emerges when we take a closer look at the methods of production’ (Trabalzi 2007:290).

Literature on hybridity approaches the selection of AFNs to study in two ways. First by selecting several different types of AFNs and second by selecting several AFNs of the same type. Those that study different types of AFNs concentrate on an aspect that is common amongst them. For example Murdoch and Miele (1999) study how a conventional business

producing organic eggs and a farmer-owned business producing organic meat change their values to meet customer demand. Ilbery and Maye (2006) analyse the supply chains of six different food retailers. Kneafsey et al. (2008) studied six AFNs that allow direct contact between producers and consumers. Instead, papers that study the same type of AFN analyse aspects that differ from each other. For example Trabalzi (2007) analyses how PDO mozzarella cheese producers implement different production processes. Forssell and Lankoski (2017) study how each manager, from nine alternative food retailers, implements a unique AFN practice that he/she think balances ideals, considerations and customer expectations.

Given that AFNs are hybrid, the way they practice sustainability values differs from one AFN to another. As such, the research needs to concentrate on one type of AFN to find how the practice of sustainability values changes. Doing the opposite, that is to analyse the practice of sustainability values from different types of AFNs would result in a common practice of sustainability values thus denying its difference. Moreover, both Tregear (2011) and Forssell and Lankoski (2014) agree that given the great diversity in AFNs there is a need to discriminate between different types to understand characteristics and how they impact the practice of sustainability values. Therefore, concentrating on box schemes and CSAs would take on board these arguments.

AFN literature contributes to this conceptual framework the definition of AFN in terms of characteristics and values, and the concept of hybridity. This section has demonstrated the importance of viewing AFNs as hybrid for the study of their values. Although AFNs aim to practice sustainability values, there are also conventional values that they practice. Moreover, hybridity studies the differences at the individual level therefore allowing for a more nuanced study of AFNs and breaking homogeneous conceptualisations. Hybridity within the AFN literature has been evidenced in three situations, relevant for this research are: how

conventional and alternative actors take part in AFN supply chains; and how actors balance alternative and conventional values. Studies analysing these situations collect data on the operations of the enterprise and on the views of the individuals involved. It is argued that the former is more relevant for this research because it explains how AFNs operationalise values. It is also argued that the research needs to concentrate on one type of AFN, that is box schemes and CSAs, to understand how and to what extent sustainability values are practiced. Nonetheless given its contribution, AFN literature does not completely provide the analytical tools needed. Therefore, the following section explains the limitations of AFN literature within the context of this research.

2.4 Limitations of AFN literature

AFN literature so far has been useful to define AFNs by their characteristics and values and to identify their hybridity. However, there are also limitations which do not allow this literature to fully explain how values are achieved by AFNs. The first limitation is that the literature has a strong focus on human behaviour within AFNs (Mariola 2008). In the context of this research this is a limitation because the focus is on people rather than on the enterprise. Albeit an enterprise is the grouping of individuals who have opinions, views and motivations, it is also an entity with its own characteristics that respond to contextual and practical aspects.

Evidence of this focus is the theoretical perspectives the literature uses. Tregear (2011) identifies three theoretical perspectives: political economy, rural sociology and governance and actor network theory. Political economy studies how political and economic forces shape human behaviour. Those involved in AFNs struggle against dominant political and economic forces. The aim is to discover the inequalities and injustices of the dominant and alternative system on individuals. Rural sociology studies the potential AFNs have in becoming an

alternative to a globalised agricultural system. Here AFNs are defined as the manifestation of a community's beliefs, values and motivations for their own food system. Therefore, rural sociology aims to explain how AFNs benefit rural communities, and why individuals within AFNs behave differently to those in mainstream systems. Finally, modes of governance and network theory study networks operating at a wider geographical scale. For this perspective, AFNs are also the result of peoples' values, beliefs and motivations. So, to understand them there is a need to examine those involved, their goals and strategies. Their behaviour within the development of an AFN is not only informed by their own beliefs but also by institutions and regulations.

The main concepts derived from AFN research further evidence its focus on human behaviour. For example, social embeddedness proposes that values such as social connectivity, reciprocity and trust take precedence over economic goals thus allowing the producer to capture more value and the consumer to pay a fair price for food (Hinrichs 2000, Sage 2003). Another example is the 'quality turn' which is the increased demand by customers for quality products. This demand stimulates areas and communities disregarded by industrial agriculture thus having a social and geographical impact. A third example is 'defensive localism' which is when the idea of local is appropriated by a community to defend itself from outside forces with positive or negative results. More recent AFN concepts such as food sovereignty (Pimbert 2009), civic food networks (Renting et al. 2012) and sustainability transitions (Maye and Duncan 2017) although surpassing individual behaviour by focusing on collective action, still concentrate on how humans collectively behave within AFNs.

Focus on social aspects within AFNs is also evidenced by the academic background of the researchers contributing to AFNs. Several authors are based at geography departments or have a background in geography such as Sage, Watts, Ilbery, Maye, Maxey, Kneafsey,

Holloway, Goodman (M), Sonnino, Galt and Marsden. Some are also based at sociology departments such as Hinrichs, Guthman, Goodman (D) and Dupuis. The strong influence of geography and sociology in AFN research may be because these disciplines have studied the effects of the globalisation and industrialisation of the food system on people, communities and economies. (Lyson and Green 1999, Murdoch et al. 2000). AFNs are proposed as a solution and therefore studying them is a natural progression for geographers and sociologists.

A second limitation is the way AFN literature studies values. Tregear (2011) identified a conflation between sustainability values with AFN characteristics. This means that research on AFN values has been conducted from the perspective of AFN characteristics to prove their presence and practice. The problem with this method is that it assumes sustainability values are present when one characteristic is identified. For example, if an enterprise operates at a local level the research assumes this is evidence of social, environmental and economic sustainability. Tregear draws from Born and Purcell (2006) who argue that locality is not an aim but rather a strategy that gives way to achieving other goals. As such all sustainability values are not innate to food systems operating at a local level. Instead an enterprise can aim to accomplish them at any geographical scale. Recent interest in investigating the values of scaled-up box schemes start to overcome this limitation by showing how these national AFNs balance sustainability values, for example Clarke et al. (2008), Larsson et al. (2016), Ostrom et al. (2017) and (Milestad et al. 2017).

Further limitations to the study of values is that literature focuses on how values are not accomplished. The approach of some AFN literature is to critically assess AFN values. This tendency is more characteristic of studies that aim to identify the inequalities and injustices of AFNs. For example Allen et al. (2003) questions how social justice is interpreted and practiced within modern AFNs in comparison to those set up during the 1970s. In this context

the demand for social justice went from challenging structures that keeps the conventional food system in place to provide a different solution to food provisioning away from the conventional system. Similarly Galt (2013) studies economic rents, self-exploitation and social embeddedness as the economic forces that shape CSAs. This framework helps to evidence the differences in farmers' wages thus demonstrating that some indeed self-exploit. These studies and many others that have analysed injustices and inequalities have been useful to progress the understanding of AFNs and move away from AFN literature that tends to celebrate and be positively biased. However, in the context of this research this literature shows how values are not accomplished and instead the aim here is the opposite, to demonstrate how values are accomplished.

A third limitation is a tendency to focus on direct sales therefore concentrating on certain types of AFNs. By direct sales it is meant sales from producer to consumer (i.e. no intermediaries). Early conceptualisations of AFNs propose that they allow food to become central to people's life and thus a vehicle to build relationships between those producing and consuming. These relationships are only possible within a local space where people have a stake in the long term future of their community (Kloppenburger 1996, Lyson and Green 1999). In these definitions there is no explicit mention of direct sales. However, direct sales are implicit through the examples used such as CSAs and farmers' markets. Some literature studies other types of AFNs for example speciality producers (Murdoch and Miele 1999, Ilbery and Maye 2005, Trabalzi 2007), organic farms (Lobley et al. 2009), fair trade (Raynolds 2000), and independent retailers (Ilbery and Maye 2006, Forssell and Lankoski 2017). But the majority of the studies concentrate on CSAs and farmers' markets (Michel-Villarreal et al. 2019, Bloom and Hinrichs 2010). This is limiting for this research because as will be demonstrated in Chapter 4, some box schemes and CSAs involve intermediaries. As

such the complexities, especially operational, that come from sourcing from various and different types of actors are missed.

A fourth limitation is that the methodologies used by the few AFN studies that analyse operational characteristics cannot be applied to this research. Murdoch and Miele (1999) and Trabalzi (2007) study production processes that add value to products. Box schemes and CSAs trade organic produce which means the activity that adds value is the aggregation and distribution of produce. As such, the way in which value is added in the studies by Murdoch and Miele (1999) and Trabalzi (2007), and this study is different. Other studies that analyse operational characteristics are Ilbery and Maye (2005, 2006). They map the supply chain actors and their location. Although this method is useful to understand the actors involved in the supply chain, it is limited as it does not explore other operational characteristics. Finally, Dupré et al. (2017) concentrate on crop diversity as an operational factor that impacts job quality and satisfaction. Although this is useful in terms of analysing labour rights, it focuses on the production rather than on the retail side of AFN. As it will be shown in the following chapters, not all box schemes and CSAs have their own production and therefore looking at crop diversity in the context of this research is not entirely useful.

2.4.1 Short food supply chains

A concept that has not been mentioned so far is Short Food Supply Chains (SFSC). The concept was first proposed by Marsden et al. (2000) and (Renting et al. 2003) with the aim to analyse how producers and consumers established a connection between them as AFNs not only trade food locally through CSAs for example, but also regionally through independent retailers and transnationally through labels such as organic and protection of designated origin (PDO). As such SFSCs study how information travels from producer to consumer to allow the consumer to make value judgements about the products purchased and thus

establish a relationship with the producer. The authors propose three ways in which information travels. First, in a face-to-face SFSC information travels through the direct contact between producer and consumer. Examples include farmers' markets and farm shops. Second, in a spatially proximate SFSC information travels through the retailer who connects the producer and consumer. Examples include buying groups and independent shops. Finally, in spatially extended SFSCs information travels through labels and certifications. Examples include designated regional food labels such as PDO and PGI and certification schemes such as organic.

The limitation of this early SFSC definition, in the context of this research, is that it disregards enquiring how products flow through a supply chain because here is more important how producers and consumers form relationships which in turn helps to construct value and meaning. Thus demonstrating, as pointed out earlier, the focus on people's behaviour within AFNs. Instead, Ilbery and Maye (2005:334) challenge SFSC by arguing that 'understanding what happens at each stage of the food supply chain, from the farm to the consumer, is important.' It is by studying the people involved in a supply chain and their location that research understands the extent of the alternativeness of AFNs and their sustainability.

Later definitions of SFSCs include the number of intermediaries in the supply chain and propose that AFNs should aim to have minimal, one or no intermediaries (Ilbery and Maye 2006, Kneafsey et al. 2013). Therefore, demonstrating the interest in AFN research for direct sales. Importantly, the French Agricultural Ministry adopted the definition of SFSCs as 'systems for the sale of products which include a maximum of only one intermediary between the producer and consumer' (ENRD 2012:57). Finally, Kneafsey et al. (2013:109) in their systematic review of literature on SFSCs proposed that the definition should combine communication of product information with number of intermediaries in the supply chain.

Thus, they propose SFCS are ‘the foods involved are identified by, and traceable to a farmer. The number of intermediaries between farmer and consumer should be minimal or ideally nil’.

SFSC does not provide the analytical tools necessary to understand how and to what extent values are practiced by box schemes and CSAs. Although the concept as proposed by Marsden et al. (2000) and (Renting et al. 2003) includes short (face-to-face) and long (spatially extended) supply chains, it has developed to idealise AFNs as supply chains with minimal or nil intermediaries. This is problematic because as will be shown in the following chapters whilst some box schemes and CSAs have one or nil intermediaries, others have many more. As such, some box schemes and CSAs could be dismissed as imperfect under the SFSC concept. Thus, analysing the reasons why some box schemes and CSAs are ‘spatially extended’ does not fit within SFSC. As Tregear (2011) argues ‘there is a risk of intellectual constraint’ when idealising AFNs. Having said that it should be acknowledged that the SFSC concept raises the issue of intermediaries in the supply chain and therefore contributes to uncover another layer of complexity within AFNs.

This section has shown the limitations of AFN literature for the study of the operationalisation of values. First, there is a strong focus on social aspects within AFNs. Second, the way in which values are studied is not appropriate. Literature either conflates AFN characteristics with values or studies how values are not achieved. Third, there is a focus on direct sales which not all box schemes and CSAs practice and finally, the methodologies to analyse operational characteristics are not suitable. The concept of SFSC, although it raises the issue of number of intermediaries in the supply chain, has restricted the concept of AFNs to supply chains with minimal or nil intermediaries between producer and consumer. Therefore, excluding research from exploring the complexities of supply chains with a number of intermediaries. Due to these limitations this thesis needs to draw from other

literatures to have the analytical tools necessary to study how AFN values are operationalised. The following section discusses Values Based Supply Chains (VBSC) literature which will contribute to the conceptual framework methodologies to analyse the operational characteristics of AFNs.

2.5 Values Based Supply Chains (VBSC) literature

This thesis argues that to understand the operationalisation of AFN values it is necessary to study operational characteristics. Also, it has been demonstrated that AFN literature does not provide the analytical tools to investigate in depth the operational characteristics. This section argues that Values Based Supply Chains literature focuses on the enterprise rather than on the behaviour of those involved. As such the literature provides the analytical tools needed to understand the operational characteristics of box schemes and CSAs. Stevenson and Pirog (2008) first proposed VBSC framework. These are partnerships between small and midsize, independent, food production, processing, distribution and retail enterprises that seek to retain more value on the production side of the chain and operate at regional level. This framework is a strategy concerned with the economic performance of the chain which is dependent on its structure, organisation and practice as well as its geographic context and the product it wishes to offer. As such VBSCs bring into AFNs, traditional supply chain management techniques combined with AFN values to ensure the welfare of all supply chain participants (Bloom and Hinrichs 2010). The authors describe VBSCs with five strategic practices:

Economies of scale and differentiated products: VBSC are adequate when there is an alignment between differentiated products and high demand. High demand requires the production of high volumes of food products thus VBSCs are adequate when a) there is high demand and b) when small and medium farmers have the capacity to produce high volumes to meet the demand.

Cooperation and competition: VBSCs cooperate with strategic actors within the supply chain to compete against other supply chains. Strategic partners are those that add the highest value to the product and align to the values and goals of the chain.

High levels of performance and trust: Successful VBSCs must reach high levels of performance to consistently produce high quality products. This is achieved by sharing information between strategic partners which requires trust. Trust is constructed at the personal and organisational level through established procedures that ensure fair, stable and predictable commercial relationships.

Shared vision, information and decision making: VBSCs share a vision for product differentiation, partner relationships and customer treatment. This is achieved through governance structures which require the participation of all strategic partners. Power struggles are inevitable as some partners will hold more power than others. As such governance must implement mechanisms that punish and reward unjust and just behaviour.

Support for strategic partners: VBSC aim for the commercial success of all strategic partners. To this end three strategies are implemented a) Agreements between strategic partners on margins and returns on investment; b) Agreements between strategic partners on the allowed costs of production estimated based on the selling price and c) contracts and agreements of appropriate duration. Critical to arrive to such strategies are trust, information sharing and fairness amongst strategic partners. These values will ensure that all strategic partners are looking after each other's welfare and neither will take advantage of the vulnerabilities of others.

Research deriving from Stevenson and Pirog (2008) has a strong focus on the enterprise. For example, Diamond and Barham (2011) analyse in detail distribution mechanisms and operations to understand the challenges and opportunities of VBSCs in infrastructure, identity preservation of the product as it moves through the supply chain, farmer coordination and

organisational forms. Bloom and Hinrichs (2010) evaluate how well- equipped conventional wholesalers trading local food are to implement VBSCs. Their subsequent study in 2011 looks at how these wholesalers implement informal mechanisms like friendships with local suppliers and formal mechanisms such as contract and labels to coordinate supply in the chain. Fischer et al. (2015a) analyse the characteristics that predict the financial viability of food hubs. Feenstra and Hardesty (2016) study how VBSCs practice transparency and communicate about values, source from small and mid-scale farms and price their products. Finally, Hooks et al. (2017) analyse how the adoption of the VBSC strategy impacts on the financial viability and sustainability of one supply chain. These examples show a focus on the enterprise rather than people. As such the data collected is about the operations rather opinions, views and motivations of individuals within the enterprise as commonly found in AFN literature.

The focus on the enterprise is partly due to the problems the literature aims to resolve. One is the increased closure of midsize family farms in the US as they are too small for the commodified conventional system and too big for the direct marketing system. The disappearance of midsize family farms can have devastating consequences for the welfare of rural communities in the US as they maintain municipal tax bases, create jobs, maintain rural populations and environmental quality (Lyson et al. 2008). A second problem is an increased demand for local food. And very importantly alongside this problem is the recognition by government, third sector and academics that small-scale producers selling directly to consumers cannot satisfy increased demand (National Good Food Network 2009, Bloom and Hinrichs 2011, Diamond and Barham 2011, Feenstra and Hardesty 2016, Jablonski et al. 2016) . Since the Obama administration, the United States Department of Agriculture (USDA) has been interested in developing local and regional food systems. To this end the department has implemented public procurement programs that require the purchasing of

large volumes of local food (Botkins and Roe 2018). The VBSC framework and literature respond to these two problems by analysing how AFNs can be scaled up by including small and midsize farmers and aggregating and distributing produce at larger volumes.

Another reason for the focus on enterprises is that researchers are based at land grant universities (LGU) and work in partnership with government institutions and NGOs to develop local and regional food systems. Some of the VBSC research comes from LGUs such as Michigan State University where Richard Pirog, one of the authors of VBSC is based. The LGU system aims to link academics with real-world contexts (Jacobsen et al. 2012). LGUs usually include an agricultural department which receives government funding for research dedicated to resolving the problems of the rural community. As such, when the USDA wanted to develop local food systems, LGUs were natural partners alongside NGOs also working towards this cause. These institutions have created the National Good Food Network (NGFN) which is dedicated to scale up sourcing and access to ‘good food’. The network connects practitioners, collects, analyses and transfers knowledge (where LGUs are mostly involved) and creates communities of practice (National Good Food Network 2009).

The partnership has identified food hubs as the most suitable models to develop a regional food system and respond to the increased demand for local food. (Fischer et al. 2015b:97) define food hubs as enterprises that ‘are, or intend to be, financially viable businesses that demonstrate a significant commitment to place through aggregation and marketing of regional food’. In other words, food hubs are businesses that aggregate and distribute food, sometimes from their own production, and trade it through either wholesale, direct to consumer channels or both. As such the only differences between food hubs and, box schemes and CSAs are that they sell wholesale and trade larger volumes.

Because of the importance of food hubs, the NGFN has produced a significant amount of resources to help practitioners learn to operate or improve them which includes academic papers, reports and webinars. Two series of such materials are relevant for this research The US National Food Hub Survey series (2013, 2015, 2017) and the US Food Hub Benchmarking Studies (2013, 2014). They are aimed at food hub practitioners developing their businesses. To this end the reports include not only detailed descriptions of their operations but also of finances as both are crucial for business development. These reports investigate in depth operational characteristics by collecting information such as the scope of the operations (years in operation, amounts of days in operation and infrastructure available) sourcing methods (sourcing distance, certifications, own production, suppliers and supplier concentration) employees and volunteers (employee's experience, labour expenses and volunteer dependency), organisational structure (non-profit or for profit, ownership of the product, added value activities and membership fees), customers (customer types and concentration) and services and activities (operational services and activities, producer oriented services and community services and activities). Financial characteristics have also been studied. These studies collect revenue, sales, sources of revenue (product sales, grant contributions, other enterprises and miscellaneous income) and profit and loss accounts.

By including operational and financial information on food hubs, the survey and benchmarking studies demonstrate their importance for the understanding of AFNs.

Therefore, this thesis includes both. They are essential in the life of a business as decisions are based on both. The way in which the reports study operational and financial characteristics is suitable as box schemes, CSAs and food hubs are similar business models. As Trabalzi (2007) studies in detail the production processes of Buffalo Mozzarella Cheese to understand the meaning of structural and geographical characteristics, it is believed that studying operational and financial characteristics will give meaning to the way box schemes

and CSAs operate thus improving understanding of how AFN values are achieved. After all, it is production processes that add value to milk, just as it is aggregation and distribution processes that add value to vegetables.

The approach this literature takes to the study of economic aspects of AFNs contrasts that of AFN literature. Whilst VBSC focuses on the enterprise, AFN research focuses more on economic impacts outside of the enterprise. In other words, whilst the former studies the enterprise finances the latter studies the economic impact the enterprise has on others. For example, early AFN literature concentrates on demonstrating the financial benefits of AFNs to farmers, consumers and communities (Sage 2003, Tregear 2011). Later AFN literature concentrates on demonstrating how such benefits are not consistent throughout AFNs (DuPuis and Goodman 2005, Ilbery and Maye 2006). Instead, VBSC research concentrates on the finances of the enterprise. For example, the US food hub surveys and benchmarking studies provide economic information of food hubs such as gross, sales and non-sales revenue, operating expenses and they analyse food hubs dependence on grant funding.

This section has evidenced that VBSC literature concentrates on enterprises. This is due to the pragmatic approach of academics whose work contributes to the development of local and regional food systems. VBSC literature highlights the importance not only of operational characteristics but equally important of financial ones to understand how an AFN enterprise works. As such this literature contributes to the conceptual framework a focus on the enterprise and the approach to studying operational and financial characteristics. . Only these analytical tools have been borrowed from this literature because there are limitations in this literature which do not allow to explain how box schemes and CSAs achieve AFN values. The following section discusses these limitations in more detail.

2.6 Limitations of VBSC literature

The previous section demonstrated two elements that are useful for this research, one is a focus on the enterprise and the second how the literature analyses operational characteristics. However, there are four elements that curtail the full use of the VBSC framework for this research.

A first element that limits VBSC in the context of this research is its focus on scaled-up AFNs. As explained in the previous section, VBSC was born out of the necessity to enable AFNs to scale up to meet a growing demand for local food in the US. Direct sales, such as CSAs and farmers' markets could not meet such demand (Bloom and Hinrichs 2011, Diamond and Barham 2012, Feenstra and Hardesty 2016, Jablonski et al. 2016) VBSCs moves away from direct sales by setting out a strategy to work with more actors in a supply chain whilst keeping AFN values. By congregating enterprises with different specialities such as food production, aggregation, distribution and retail, AFNs can trade at larger volumes and therefore respond to growing demand. However, as mentioned previously the case studies within this research are not all scaled-up AFNs. Some implement direct sales, some aggregate and distribute like food hubs. As such the VBSC framework cannot be fully applied to this research.

A second limitation of this literature is that it assumes that all scaled up AFNs aim to implement fully the practices suggested in the VBSC framework. The VBSC framework proposes a series of practices that meet AFN values. These supply chains trade differentiated products which contribute to environmental sustainability. Socially, VBSCs require strong relationships between strategic partners of the chain. This creates communities centred around the common goal of sustainable food. By fostering these relationships morality, trust and transparency are implemented. Strong relationships are created through governance

mechanisms and continuous improvement systems which punish and reward business behaviour, lead to a shared vision and decision-making. VBSCs aim for all partners to be economically sustainable and achieve this by implementing formal mechanisms to coordinate supply through contracts of appropriate duration where partners agree margins and returns, and prices are based on costs of production.

In the literature this list of practices, which is the operationalisation of values, is applied to case studies thus assuming that the aim of all scaled up AFNs is to implement these practices. However, studies that apply the framework to real life AFNs find that all these practices cannot always be met. For example, AFNs only find partners who prioritise conventional values, there is not a strong local food movement that values local food (Bloom and Hinrichs 2010), supply chains use informal mechanisms, such as friendships, to coordinate supply (Bloom and Hinrichs 2011), the inputs necessary are not always available thus challenging strong relationships between supply chain partners (Feenstra and Hardesty 2016), or sometimes the partners in a VBSC do not share the same vision (Hooks et al. 2017). It could be suggested that if these barriers are resolved then AFNs would align more closely to the VBSC framework. However, the research does not explore the reasons why these barriers exist and furthermore if AFN enterprises are willing to compromise on certain VBSC practices and thus certain values.

A third limitation is the concentration on operational effectiveness in the VBSC framework. One of the principles of the VBSC framework is to achieve high levels of performance. To achieve this AFNs must implement 'continuous improvement systems, high levels of assistance for strategic suppliers, and performance evaluation systems that engage the entire chain' (Stevenson and Pirog 2008:124). All the other principles are woven around operational performance. For example, the quality of differentiated products is maintained through continuous improvement systems. Cooperation is achieved by sharing information for

performance evaluations. Sharing decision-making means implementing governance structures that reward and punish the implementation or lack of operational effectiveness. And finally, to ensure the support for strategic partners high levels of assistance must be implemented. Although measuring the operational effectiveness of box schemes and CSAs would be a research project that would very much help develop the sector, the focus here is on understanding how values are operationalised. The difference is that one measures operational performance, the other understands why operations are designed and performed in the way they do. Operational effectiveness is also reflected in some of the academic literature. Lev and Stevenson (2011) study how to collaborate effectively between supply chain partners; Diamond and Barham (2011) study the opportunity and challenges of scaling up AFNs in regards to infrastructure, identity preservation, farmer coordination and organisational forms; And (Fischer et al. 2015a) study the factors that make food hubs financially viable. The US food hub surveys and benchmarking studies are also examples of documents measuring the operational performance of food hubs.

A final element is the research methods used which respond to the aim of the research. Studies such as the US food hub surveys, benchmarking studies and Fischer et al. (2015a) aim to paint a picture of the sector and therefore use quantitative methods and thus larger samples. This leads to a search in the commonalities of food hubs. Instead the aim here is to understand how values are operationalised by individual AFNs and therefore there is a need to search for the differences or the hybridity in the practice of box schemes and CSAs, leading to a smaller sample size. Even if the aim of this research was to mirror the US food hub survey or benchmarking studies it would have been challenging because the scope of these reports exceeds the capacity of this PhD. They required the collaboration of academics, practitioners and government officials from different disciplines including agricultural economics, business studies and agricultural production. Also, the participation and support

of the food hub community in the US has been critical. This has been possible thanks to the work of the National Good Food Network who has been supporting food hubs for ten years (NGFN 2014, Colasanti et al. 2018).

VBSC literature has limitations which do not allow it to be fully implemented in the study of how box schemes and CSAs meet AFN values. VBSC literature concentrates on scaled up AFNs; it assumes that all scaled up AFNs aim to implement fully the practices suggested in the VBSC framework; The literature concentrates on operational effectiveness; and the methods used look for commonalities rather than differences. Whilst these elements are useful in the development of scaled up AFNs, they are not so much for studying how AFN values are achieved by box schemes and CSAs.

This chapter so far has analysed the contributions and limitations of both AFN and VBSC literature to this conceptual framework. AFN literature has contributed a definition based on characteristics and values and the concept of hybridity. VBSC literature has contributed the approach to study operational and financial characteristics and a focus on the enterprise.

However, these contributions are not enough to study how values are achieved by box schemes and CSAs because there is no concept that links the values and hybridity found in AFN literature with the operational and financial characteristics found in VBSC literature.

The following section introduces competitive strategy which is the conceptual tool that allows the research to link values to operational and financial characteristics thus uncovering the hybridity within box schemes and CSAs.

2.7 Competitive strategy

This section draws from Porter's (1996) seminal work on competitive strategy to argue that it links the values and hybridity found in AFN literature with VBSC's operational and financial characteristics to understand how box schemes and CSAs achieve AFN values. To situate

competitive strategy, there is a need to discuss VBSC literature. The previous section discussed that one of the limitations of the literature was its focus on operational effectiveness. Operational effectiveness is about the efficiency of operational processes and use of inputs. Porter (1996) argues that in the 1970s and 1980s business studies focused research only on operational effectiveness. Companies implemented benchmarking studies to improve operations and gain efficiencies. The obsession drove enterprises within the same sector to have very similar processes making products or services similar from one company to the next. This increased competition because companies were not differentiating themselves enough from their competitors. Porter (1996) argues that differentiation is key for a business to succeed and it is achieved through competitive strategy. Competitive strategy is aiming to be different by 'choosing a different set of activities to deliver a unique mix of value' (Porter 1996:64). That is, the activities that an enterprise performs respond to products or services offered which are different from those of competitors thus creating value.

Much has been written about business strategy after Porter's work but here only three elements are relevant. The first is strategic positioning which can be defined as the aim or values of the enterprise. For example Ikea's strategic positioning is 'to target young furniture buyers who want style at a low cost' (Porter 1996:65). Porter proposes that strategic positions are either based on products or customers, but these are not mutually exclusive and often overlap as shown in the Ikea example. The second element is supply chain strategy which determines the activities of the supply chain or how a product is procured, packed, distributed and purchased by customers (Chopra and Meindl 2013). These are the operational and financial characteristics of an enterprise. Finally, strategic fit is the alignment between strategic positioning (values), and supply chain strategy (operational and financial characteristics). In other words, the activities of the enterprise should be the operationalisation of the values, and the aim of the enterprise should determine the activities

of the supply chain. As such, competitive strategy assumes there is alignment between values and operational characteristics.

Therefore, competitive strategy will be used in this conceptual framework as the conduit between operational and financial characteristics and values. It will show how both relate, respond and align to each other. By doing so the research will be able to understand the hybridity of box schemes and CSAs. As such the approach is to identify values from the operational and financial characteristics of an enterprise rather than from the opinions or reflections of individuals within the enterprise. Including competitive strategy in this framework furthers VBSC literature because it adds it to the analysis of AFN enterprises. Moreover, just as Stevenson and Pirog (2008) draw from business organisational and fair trade literature to create the VBSC framework, this research also draws from the seminal business studies work by Porter (1996) to understand how operations link to AFN values.

This thesis is an examination of sustainability values. Although the chapter has established the sustainability values of AFNs, it is necessary to define sustainability and the approach that will be used to study it. The next section addresses these elements.

2.8 Sustainability

Sustainability is a problematic term because of its continuous redefinition (Forssell and Lankoski 2014). In relation to food the term has been used to define sustainable agriculture which is when food production is environmentally or ecologically sound. It has also been used to define sustainable development which is one that meets the needs of present and future generations. And finally, sustainable livelihoods which is a framework that analyses at the individual and community level the capabilities, assets, and activities required for a decent living (Hinrichs 2010). Despite its different uses there is no agreed definition of sustainability. However several authors agree that in analysing sustainability social, economic

and environmental issues must be considered (Hinrichs 2010, Forssell and Lankoski 2014, Maxey 2006).

AFNs are defined as aiming to be sustainable (Tregear 2011, Forssell and Lankoski 2014, Michel-Villarreal et al. 2019). For example Feenstra, (1997:28) defines AFNs as ‘rooted in particular places, aim to be economically viable for farmers and consumers, use ecologically sound production and distribution practices and enhance social equity and democracy for all members of the community’. This definition includes the three pillars of sustainability: social issues which are addressed through enhanced social equity and democracy; environmental issues which are dealt through the use of ecologically sound production, distribution and their establishment in particular places; economic issues which are tackled through the economic viability of farmers and consumers. As such AFNs promise to be sustainable.

However, the sustainability promise of AFNs has been challenged because the methods to evidence it are problematic. Some AFN literature conflates AFN characteristics with sustainability (Tregear 2011). This conflation impedes research from analysing how the practice of social, economic and environmental values contribute to sustainability. Another problem is that some literature relies on the conventional vs alternative binary (Jarosz 2008). That is that conventional food systems do not have the characteristics found in AFNs and therefore they are unsustainable (Maxey 2007). Since AFNs are not what conventional food systems are (Tregear 2011), AFNs’ characteristics are in opposition to those of conventional food systems. Therefore, there is an assumption that in terms of sustainability, the characteristics of conventional food systems are unsustainable whilst the characteristics of AFNs are sustainable.

The study of sustainability requires a definition. Several papers define it by using its three pillars: social, economic environmental. For example Blay-Palmer and Koc (2010)

conceptualize sustainability in three parts: Socio-communal space, economic space, and environmental space. Forssell and Lankoski (2014) divide sustainability into social, economic, and environmental. Other authors define sustainability by staying away from the three pillars of sustainability although the categories proposed could be mapped onto them. For example Ilbery and Maye (2005) use an NGO definition of sustainability which includes the categories of proximate, healthy, fairly or cooperative, non-exploiting, environmentally beneficial, accessible, high animal welfare, socially inclusive and encouraging knowledge and understanding. Maxey (2007) proposes the categories of physical limits, futurity, equity, participation, relationship and process.

However, some authors argue that sustainability cannot be defined. Given that sustainability is about taking into account social, economic and environmental values Hassanein (2003:78) asks how are these values equitably balanced in practice? The author argues that this question cannot be answered because at its core there is a conflict of values. In other words, inevitably in practice one sustainability value will be prioritised, or traded-off, over the others. As such, Hassanein (2003) draws on Prugh et al. (2000) to propose that the conflict of values is resolved by building sustainability socially and politically. This is also identified by Ilbery and Maye (2005) about sustainable development. As such the definition of sustainability becomes ambiguous because it is up to those involved in achieving sustainability to define it. This ambiguity is identified by several authors. For example, Maxey (2007) characterises sustainability as uncertain, Buttel (2006) as not static, Ilbery and Maye (2005) as slippery and Hinrichs (2010) as pliable.

If the argument that sustainability cannot be defined, because it is socially and politically constructed, is accepted then how should research approach the study of sustainability?

Maxey (2007) proposes that sustainability should be viewed as process. In such a process those involved in building sustainability should continually reflect and ask themselves: what

do we want to sustain and how? Sustainability is therefore in constant construction and negotiation. Buttel (2006) also proposes a process view because sustainability is indefinite and since it must change all the time because there will always be new agro-food systems that can be better socially, economically and environmentally. This view of process also fits well with the study of AFNs because as businesses they are also always changing according to the technology and the demands of customers.

Maxey (2007) proposes that a way to study sustainability as a process is by drawing on the idea of a binary. In other words, establishing what is sustainable and unsustainable. Although authors have criticized the study of AFNs as a binaries because in practice AFNs are neither one extreme nor the other (Allen et al. 2003, Sonnino and Marsden 2006, Tregear 2011), starting from a binary is useful to add transparency to the understanding of how sustainability is constructed and practiced. By departing from both extremes, the analysis will uncover the hybridity in the practice of sustainability. Therefore, combining binary with hybridity becomes a method to understand sustainability which establishes binary characteristics, for example local food vs nonlocal food, and discusses the binary or what is in the middle of these extremes.

To this end, it is necessary to delve into the detail of how box schemes and CSAs operate which has been established by the VBSC literature. It is argued that only through an in-depth look can choices between one operation and another be discovered and thus revealing how sustainability is constructed. To understand the relationship between operational and financial characteristics and sustainability the research will use the framework by Forssell and Lankoski (2014) which links AFN characteristics to sustainability impacts. Operational and financial characteristics will be organised according to each AFN characteristic to analyse how they operationalise AFN characteristics to achieve sustainability.

The framework shows the potential environmental, economic and social impacts or desirable outcomes AFN characteristics can accomplish according to AFN literature. Tregear (2011) argues that AFN research conflates structural and spatial characteristics with social, economic and environmental desirable outcomes. This is not to say that an AFN characteristic is not evidence of the practice of a sustainability value. For example, if an AFN is trading organic products (AFN characteristic), then it is achieving environmental sustainability. What Tregear argues is that AFN characteristics, like strong relationships between producers and consumers, are attributed desirable outcomes, such as environmental sustainability, which it does not achieve. What this framework does is to take the concept of sustainability in AFNs and break it down into smaller components to analyse how they relate to each other. As such it is useful to structure the discussion about how sustainability is achieved by box schemes and CSAs.

Figure 2.1 sets out Forssell and Lankoski's (2014) framework. It includes three core characteristics: increased requirements for products and production, reduced distance between producers and consumers and new forms of market governance. Strong relationships is included as a fourth outcome characteristic in the framework because the authors argue it is an expected result of AFNs. This is in line with this thesis which found strong relationships consistently throughout box schemes and CSAs. Therefore, it has been included here as a characteristic even though it was identified in section 2.2 as a value. Another characteristic that will be included is labour rights. It could be argued that labour rights are part of new forms of market governance because this characteristic is about the distribution of power and labour rights is about levelling the power relationship between employer and employees. But Forssell and Lankoski (2014) argue that it is not clear if labour rights are considered in AFNs. Because of this argument, labour rights has been assigned its own category to highlight its importance in achieving sustainability.

Figure 2.1 lists AFN characteristics in the far-left column and the following columns organise the impacts of these characteristics into environmental, social and economic sustainability.

As such this framework has three ingredients: characteristics, impacts and sustainability values. This research will introduce a fourth ingredient, operational and financial characteristics. They explain how AFN characteristics are operationalised to arrive to an impact and therefore achieve sustainability values. By doing so the research will be able to explain how and to what extent sustainability values are achieved.

The starting point is that these enterprises practice a set of values that they believe are sustainable. This research does not aim to challenge these assumptions but to understand how those values are put into practice. As such, the research assumes that all box schemes and CSAs aim to be sustainable. The sustainability promise of AFNs has been challenged not because AFNs are unsustainable, but because research uses AFN characteristics to evidence sustainability. Moreover, research that questions the sustainability of AFNs focuses on a specific sustainability issue (Forssell and Lankoski 2014). For example that they are not economically sustainable because they do not pay farmers fairly (Galt 2013) or that they are not socially sustainable because they do not address labour rights (Allen et al. 2003). But since sustainability is about analysing social, economic and environmental issues at the same time it cannot be assumed from these examples that AFNs are not sustainable, because they are just demonstrating one element in which they are not sustainable.

Applying Forssell and Lankoski's (2014) framework could raise two counter arguments. The first is that sustainability is defined which goes against the idea of a socially and politically constructed sustainability. Forssell and Lankoski (2014) acknowledge this and argue that a structure is needed to discuss sustainability. Furthermore, the framework is built from a literature review which evaluates what AFN research considers is sustainable about AFNs.

Figure 2.1: Suggested possible direct linkages between AFN characteristics and sustainability

AFN characteristics		Environmental impacts	Economic Impacts	Social impacts
Requirements for products and production	Natural foods			Less additives, nutrients intact – consumer health
	Environmentally benign (organic)	All aspects of environmental sustainability, incl. animal welfare	Adds value – producer livelihoods	Reduced exposure to chemicals and hormones – consumer health
			Labour intensive – employment creation	Restriction of use of chemicals and hormones – consumer health
			Adds value – producer livelihoods	Biodiversity – food security- access to food
	Small scale Artisanal, non-industrial, diverse		Adds value – producer livelihoods	Crop diversity – food security -a access to food
			Labour intensive – employment creation	Preserves traditional production methods – preservation of food culture
	Territorially embedded		Adds value – producer livelihoods	Preserves traditional production methods – preservation of food culture
			Expands markets – Producer livelihoods	
Reduced distance	Physical distance	Less “food miles” – reduced emissions and fuel use	Supporting local economy	Fresher food – consumer health
				More local food production – strengthens food security – access to food
	Value chain distance		Producers capture greater share of value – producer livelihoods	More affordable food – access to food
	Informational distance		Adds value – producer livelihoods	Increases consumer awareness of food production – preservation of food culture
Governance	Redistribution of power Sharing of risk and resources		Negotiation power – producer livelihoods Reduces economic risk for producers – producer livelihoods Combining resources – better market opportunities – producer livelihoods	
Strong relationships	Social embeddedness, trust		Add value – producer livelihoods	

Source: Forssell and Lankoski (2014:69)

This review includes papers based on empirical data such as Marsden et al. (2000), Renting et al. (2003), Sage (2003), Ilbery and Maye (2005) and Sonnino and Marsden (2006). As such it can be argued that this definition of sustainability has been constructed through a research

process which includes the view of practitioners and researchers and therefore fitting with Maxey's (2007) description.

The second argument that the framework raises is that the impacts it lists have been contested in the literature. The aim of the framework is not to validate the assumptions that AFNs meet all these impacts, rather it is to provide a clearer picture of what the literature promises AFNs achieve in terms of sustainability. This is useful for this research because the framework establishes one half of the binary or the 'alternative' side, thus giving way to an analysis of the hybridity of sustainability values. As such, not only the practice of sustainability values will be analysed but also conventional ones.

The process of analysing the hybridity of AFNs will inevitably highlight the trade-offs AFNs must make. As discussed earlier it is inevitable that in practice some sustainability issues will be prioritised over others (Hassanein 2003, Hinrichs 2010). AFNs cannot meet an ongoing list of sustainability values so studying trade-offs will provide a better understanding of how AFNs balance sustainable values and conventional values (Hinrichs 2010). For Porter (1996) trade-offs are essential for competitive strategy. They are the choices an enterprise must make and therefore build the alignment between values and activities. They keep an enterprise focus on its values and thus limit what an enterprise offers.

Trade-offs have been discussed in AFN literature. It could be argued that hybridity literature is a form of trade-offs. For example, Hinrichs (2000) studies the trade-offs farmers and customers make between social embeddedness, marketness and instrumentalism to benefit themselves. Ilbery and Maye (2005) analyse the trade-offs specialist food producers made in terms of sourcing their inputs and types of actors involved to remain financially viable. And Trabalzi (2007) studies the trade-offs made in the production of mozzarella cheese to market their products to a target customer type. However, it is only Hinrichs (2010) and Michel-

Villarreal et al. (2019) who explicitly address trade-offs in the practice of sustainability.

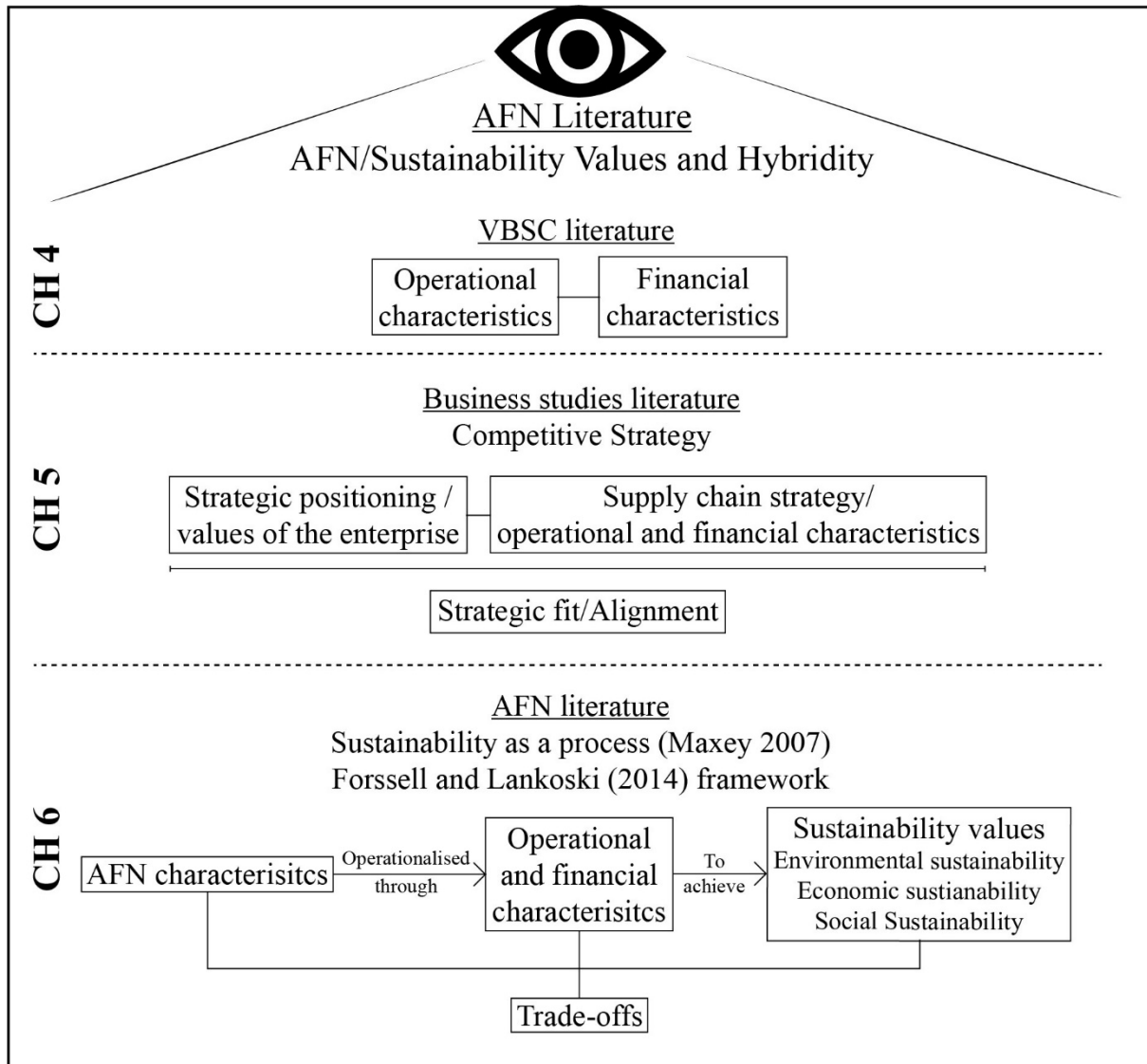
Michel-Villarreal et al. (2019) suggests social, economic and environmental aspects may not be equally balanced and therefore trade-offs may emerge. Hinrichs (2010) acknowledges the inevitability of trade-offs in the practice of sustainability. This research follows Hinrichs' (2010) argument but takes the discussion from the hypothetical to the empirical by evidencing the trade-offs box schemes and CSAs must make.

Sustainability is socially and politically defined. Thus, to study sustainability it must be viewed as a process in which those involved in sustaining decide what and how to sustain. The research will analyse how and to what extent sustainability values are practiced using this view of sustainability. It will implement Forssell and Lankoski's (2014) framework to link operational and financial characteristics to sustainability values. By doing so the research will discuss the trade-offs case studies must make to practice sustainability.

2.9 Summary

Figure 2.2 diagrams how the analytical tools will be used in the next three chapters. The conceptual framework is overseen by AFN values and hybridity which were identified in AFN literature. As operational and financial characteristics are the base for this investigation, Chapter 4 will identify them on box schemes and CSAs using as a guide the US food hub survey and benchmarking studies from VBSC literature. Chapter five will use the analytical tool of competitive strategy, from business studies literature, to identify principle value and commercial behaviour based on the operational and financial characteristics. Finally, Chapter six will study how the principle value and commercial behaviour impact on other sustainability values. To do so, the chapter will draw from AFN literature. It will define sustainability as socially and politically constructed as proposed by Maxey (2007) and it will also base the analysis on operational and financial characteristics. To bring together

Figure 2.2: Development of the conceptual framework throughout the thesis chapters



Source: Author

sustainability values, sustainability as a process and operational and financial characteristics, the research will use Forssell and Lankoski's (2014) framework. This will lead to a discussion of trade-offs enterprises make to align their values to their operations. The concept of Trade-offs is part of competitive strategy. Chapter 7 will include this same diagram to demonstrate how Chapters 4, 5 and 6 develop this conceptual framework.

The next chapter will set out the paradigm and methodology that will be used in this thesis. It will evidence why pragmatism and mixed methods are a suitable paradigm and methodology

for this thesis. It will also recount the three analytical processes implemented by the research where a range of methods were implemented.



Chapter 3

Methodology

3.1 Introduction

This chapter describes the research paradigm and methodology used in this thesis. It argues that pragmatism and mixed methods (MM) are a suitable research paradigm and methodology for this research mainly because they allow the use of quantitative (QUAN) and qualitative (QUAL) research methods within the context of detailed case studies. QUAN and QUAL are critical as operational (QUAN) and financial (QUAL) characteristics are a result of how sustainability values are practiced and traded-off. The chapter evidences the suitability of pragmatism by discussing how other research paradigms restrict researchers to one type of research method. The suitability of mixed methods is evidenced by recounting the research process and how it implemented four analytical processes which contributed to an inductive research design. These analytical processes demonstrate that to answer the research question it was necessary to implement the case study method.

The chapter is divided into six main sections. Section two will discuss the research paradigm. First, the section will define the research paradigm and contrast positivism and constructivism. Then it will recount the paradigm debate and how the incompatibility thesis

does not allow for the mix of QUAN and QUAL research methods. Following this, the section will introduce the pragmatism paradigm and its suitability for this research. After, it will discuss how ontology and epistemology are interpreted and how such interpretation helps to avoid social desirability response bias. Then, the section will introduce MM as the methodology, case study as the main method and the reasons for their suitability. Section two will close with a description of the positionality of the researcher. Section three will discuss the journey of implementing the methodology through the four analytical processes. As this is the longest section in the chapter it is divided into six subsections. The section will open with a recount of the involvement with the Better Food Traders, a network organisation which aims to differentiate independent retailers through a certification scheme. The involvement raised two issues which contributed to the development of the research. The section then moves to describe a transition phase where the decision to work with box schemes and CSAs was taken and the values based supply chains literature was discovered. The third subsection discusses the national box scheme and CSA survey, the second analytical process. The next subsection focuses on case studies where the third and fourth analytical processes occurred. It describes research design, case study characterisation and, QUAN and QUAL data analysis methods. Finally, this subsection discusses how the QUAN and QUAL analysis was brought together. Research ethics are examined in the fourth section. The chapter closes with considerations regarding data quality.

This chapter contributes to the thesis its philosophical underpinning through the pragmatism paradigm and the implementation of mixed methods. Although some of the literature reviewed in the conceptual framework combine QUAN and QUAL research, here the use of both is explained and justified through the research paradigm. As such, this chapter is novel in that it explicitly declares the ontology, epistemology and methodology used in the study of

AFNs thus addressing the issue of ‘paying greater attention to how conceptual and ontological positions are presented and explained’ raised by Tregear (2011:428).

3.2 Research paradigm

3.2.1 The paradigm debate

Mertens (2003:139 cited in Teddlie and Tashakkori, 2009) defines a paradigm as ‘a worldview, complete with the assumptions that are associated with that view’. According to Guba and Lincoln, (1994:105) a paradigm is ‘the basic belief system or worldwide view that guides the investigator, not only in the choices of method but in ontologically and epistemologically fundamental ways’. In other words, a paradigm is how the researcher views and interprets the world. As such it is important to establish such a worldview to understand the interpretations of this research. A paradigm is composed of three elements: Ontology, Epistemology and Methodology. Ontology refers to the form and nature of reality. Epistemology refers to the relationship between the researcher and reality and what can be known about the reality that is being investigated. Methodology refers to the methods the researcher will employ to find such reality (Guba and Lincoln 1994, Oktay 2012, Sobh and Perry 2006, Teddlie and Tashakkori 2009).

To illustrate these concepts, it is useful to contrast two opposing paradigms: positivism and constructivism. For positivism, reality exists and is shaped by natural laws and mechanisms. Reality is objective (Feilzer 2010). The researcher relates to such reality by assuming his/her independence from it. As such neither researcher nor reality influence each other.

Methodologically a research project guided by positivism formulates a hypothesis which is tested through empirical data (Guba and Lincoln 1994). Therefore, positivist research tends to be confirmatory and deductive, that is, that the endeavour of the researcher is to propose a theory and confirm it through the research. The purpose of the enquiry in this case is to

predict and control phenomena (Guba and Lincoln 1994). This research also tends to rely on numerical data and analysis therefore it is quantitative (QUAN) (Teddlie and Tashakkori 2009).

In contrast, the constructivism paradigm proposes that there are multiple realities that each subject of investigation constructs based on their own mental constructions, experiences, locality and culture (Guba and Lincoln 1994). Thus, none of these realities are absolute and they can change according to a person's experience. Reality is perceived as subjective (Feilzer 2010). These multiple realities become known through their co-construction between the researcher and the participant. Therefore, the researcher relates to these multiple realities by co-creating and influencing them (Guba and Lincoln 1994). Since the researcher influences reality, then the researchers' positionality, such as values, reasons for conducting the research, mental constructions, experiences, locality and culture must be stated and considered in the research process (Charmaz 2008). Constructivism requires a methodology that enables the research to understand and re-construct people's constructions and explore the attributes of a phenomenon and the possible relationships between attributes (Teddlie and Tashakkori 2009). To achieve this, the methodology is inductive, meaning that there are ideas or questions at the early stages of the research, and then theories or new lines of enquiry are borne out of the data collection and analysis. However, Grounded Theory, which is a methodology associated with constructivism, uses an abductive method which combines both deductive (positivism) and inductive (constructivism) reasoning with the aim of generating new theories (Feilzer 2010). This research tends to rely on narrative data and analysis therefore it is qualitative (QUAL) (Teddlie and Tashakkori 2009).

The 'paradigm debate' or 'wars' refers to the conflicting views as to which paradigm is best for conducting research in the social and behavioural sciences. Although not an exhaustive list, these can be broadly divided into two oppositional camps: positivism and postpositivist

paradigms in one camp and critical theory and constructivism paradigms in another (Guba and Lincoln 1994). The paradigms in each camp share ontological, epistemological and methodological characteristics, yet they are distinct from each other. The main argument of the paradigm wars is the incompatibility thesis which states that it is impossible to mix QUAN and QUAL data and analysis in one research project because of their underlying paradigms. In other words, positivism and postpositivism are wedded with an objective view of ontology, epistemology therefore requiring QUAN methods in the methodology. Critical theory and constructivism have a subjective view of ontology and epistemology which means they use QUAL methods in their methodologies. As such there is a 'one-to one' correspondence between paradigm and research method (Teddlie and Tashakkori 2009).

3.2.2 Pragmatism

Pragmatism is proposed as a third type of paradigm which stands between those that are objective (positivism and postpositivism) and those that are subjective (critical theory and constructivism). The compatibility thesis is the philosophical basis of pragmatism which proposes that QUAN and QUAL methods are compatible (Teddlie and Tashakkori 2009). Thus, pragmatism challenges the incompatibility thesis by disrupting the dichotomy between QUAN and QUAL and, objective and subjective (Shannon-Baker 2016). Choosing which method is suitable for research depends on the research question (Onwuegbuzie and Leech 2005). Therefore, another important characteristic of pragmatism is that it interprets truth and reality as a function of what is best to answer the research question. In this context, the researcher is free from a forced dichotomy between objective and subjective methods (Feilzer 2010) which Onwuegbuzie and Leech (2005:375) argue 'is the biggest threat to the advancement of social sciences'. As such, ontology and epistemology are not wedded to an objective or subjective view of truth and reality or to the methods to be used. Hence, allowing for QUAN and QUAL methods to be combined.

Pragmatism is a suitable paradigm for this research for two reasons. First, as explained in the previous chapter this research has collected operational and financial data because both are necessary to understand enterprises such as box schemes and CSAs. This means that data will be QUAL (operations) and QUAN (finances). Hence, the research needs a paradigm, like pragmatism, that allows the use of both. The second reason is the strong focus on human behaviour in AFN research and specifically a concentration on individuals involved. This means literature has mainly used QUAL data and suggests the use of subjective paradigms like critical theory. But, it has been argued that this thesis needs to concentrate on the enterprise rather than on the individuals involved. As such, a different philosophical approach is needed which addresses QUAN and QUAL and therefore the objective and subjective aspects of box schemes and CSAs and of research analysis such enterprises. Therefore, pragmatism is a suitable paradigm.

Pragmatists view and interpret the world as a series of layers, some which are objective and others which are subjective (Feilzer 2010, Oktay 2012). These interpretations are dependent upon 'what works as the truth regarding the research questions under investigation' (Teddle and Tashakkori 2009:8). Therefore, the interpretation of ontology and epistemology that will be used in this research uses different layers of objectivity and subjectivity in function of what the researcher thinks is best to answer the research question.

Ontology refers to the form and nature of reality (Oktay 2012). Chapter 2 highlighted two types of realities. One that is subjective which is based on the opinions, views and motivations of individuals involved in AFNs. This reality is subjective because individuals can create his/her own reality based on experiences, culture and society. This reality can be altered through the interactions with other individuals (Guba and Lincoln 1994). The other is objective reality which is based on the operational and financial characteristics of AFN enterprises. Its objectivity lies in the fact that this reality cannot change. Operational and

financial characteristics are how box schemes and CSAs ‘really work’ (Guba and Lincoln 1994:108) and thus this reality cannot be changed by an individual’s experience, culture and society. An individual may have an opinion on for example, the effectiveness of operational and financial characteristics, but this does not change the way in which they occur.

However, there is also an element of subjectivity in which it is acknowledged that reality can only be ‘imperfectly apprehendable’ (Guba and Lincoln 1994: 110). This is because it relies on the participants’ and researcher’s skills to interpret reality which sometimes are not completely accurate, as it is the case with financial records discussed later in the chapter. As such, the ontological definition of this research is objective because the reality that is being investigated is the operational and financial characteristics of box schemes and CSAs. Yet, the interpretation of this reality has a degree of subjectivity because reality is not completely apprehendable.

An advantage of studying how sustainability values are achieved through an objective reality layer is the reduction of social desirability response bias. This means the ‘tendency of individuals to deny socially undesirable traits and behaviours and to admit to socially desirable ones’ during a research process (Randall and Fernandes, 1991:805). It has been argued that early AFN literature tends to extoll the virtues of AFNs such as fair pay to farmers, economic benefits for local communities, social cohesion and strong relationships between producers and consumers (Tregear 2011). This means that there is a socially desirable idea amongst researchers and practitioners of what AFNs should be. Most of AFN research collects QUAL data such as opinions, views and motivations. Conducting research using a subjective reality that aims to understand how sustainability values are achieved could allow AFN practitioners to extoll AFN characteristics that are socially desirable and deny or minimize those that are socially undesirable. For example Miller, (2015) and De Luca *et al.*, (2016) only document socially desirable or positive AFN impacts. This does not

suggest that all AFN research is biased, that the findings in these papers are not true or that a subjective reality cannot find undesirable traits. Indeed Forssell and Lankoski (2017) is an example of QUAL research focusing on a subjective reality that uncovers undesirable and desirable AFN characteristics. The argument is that by examining a subjective reality, undesirable characteristics may be missed, thus research provides a less accurate depiction of sustainability. As such, this thesis has chosen to interpret reality objectively, not only because of the nature of the data generated (operational and financial characteristics), but also because it avoids social desirability response bias.

Epistemology refers to the relationship between the researcher and reality and what can be known about the reality that is being investigated (Sobh and Perry 2006). Here there is an objective and a subjective layer. An objective epistemology proposes that the researcher is independent from such reality and therefore neither researcher nor reality influence each other. In this case the researcher cannot change operational or financial characteristics of the case studies. These characteristics are implemented every day by box scheme and CSA workers and are immutable even through the intervention of this research. However, the subjective layer is connected to what can be known about the reality that is being investigated. It is argued that what can be known about operational and financial characteristics is only possible because of the motivation and previous experience of the researcher. As such, although I cannot change the nature of reality, previous experiences motivate me to look for this reality. Furthermore, what can be known about this reality is altered because my previous experiences allow me to know about the technical aspects of this reality, thus I am able to delve deeper into this reality and decide which characteristics to concentrate on. Therefore, the relationship between the researcher and reality is objective, but what can be known about the reality being investigated is subjective.

Methodology refers to ‘the technique used by the researcher to discover reality’ (Sobh and Perry 2006:1195). This research adopts mixed methods (MM) as the methodology for several reasons. First, it allows for multistrand designs. A strand is the analytical process of conceptualising, experimenting and inferring. As such, the research analyses, conceptualises, experiments and infers several times. Second, MM allows the use of QUAN and QUAL data and analysis. Third, the methodology is conducive to formulate theory from data (Teddlie and Tashakkori 2009). These three reasons will be justified after the methodology is presented. A final reason is that MM fits with the paradigm needed for this research. Teddlie and Tashakkori, (2009:5) argue that MM advocates ‘the use of whatever methodological tools are required to answer the research questions under study’. This aligns with the methodological stance of pragmatism which allows for ‘methods that are most useful for the study’s purpose’ (Okta, 2012:17). As such MM and pragmatism align with each other because for both the focus is on implementing ontologies, epistemologies and methodologies that help answer the research question.

Method is the procedure by which data is collected, organised and analysed (Teddlie and Tashakkori 2009). The main method chosen for this thesis is case study. Its main advantage is that it allows for a deep understanding of a phenomenon (Piekkari and Welch 2018). As will be explained in the following section, this research implemented two analytical processes which led to the conclusion that to understand how and to what extent sustainability values are practiced there was a need to delve deep into the practice of sustainability. To that end, the best possible method was to study in detail a number of box schemes and CSAs thus, making the case study method suitable.

Proponents of case studies argue that a deep understanding of a case can be done for different purposes. Eisenhardt (1989 in Piekkari and Welch 2018) argues that they are useful for developing theories from empirical data (inductive process), which then can be tested with

large-scale quantitative testing. Yin (1984 in Piekkari and Welch 2018) proposes that the purpose of the case study is to verify or test theories (deductive processes). Stake (1995 in Welch et al. 2011) argues that case studies are for interpretative purposes. That is, case studies allow the complete understanding of some phenomenon (Piekkari and Welch 2018, Schwandt and Gates 2018). Finally, Welch et al. (2011) propose that another purpose is explaining why and how events are produced. As the aim here is to understand how and to what extent, the aim of the thesis fits with the latter purpose. This means that case studies allow the understanding of how and to what extent sustainability values are practiced.

This last purpose has been termed ‘Qualitative Comparative Analysis’ (CCA) (Piekkari and Welch 2018, Schwandt and Gates 2018) or ‘Contextualised Explanation’ (CE) (Welch et al. 2011). The focus is on explanations that reveal the capacity objects or beings have to change their world. To this end, this way of analysing case studies concentrates on understanding the context, which means the conditions that within a triggering mechanism create an outcome (Welch et al. 2011:741). Here operational and financial characteristics are such context.

Therefore, box schemes and CSAs are analysed through the different ways they organise their operations and approach their finances. This means the research explains how different combinations of operations and finances allow case studies to deliver on sustainability values.

CE acknowledges that one operational or financial characteristic is not solely responsible for sustainability. Instead, a characteristic is dependent on other characteristics for sustainability to occur. It is also recognised that cases may present different characteristics to arrive at the same way of practicing sustainability or that the same characteristics may result in different ways of practicing sustainability. Therefore, there is a concern for identifying patterns amongst operational and financial characteristics and their relation to sustainability (Ragin 1997, Piekkari and Welch 2018). Sustainability is thus contingent on operational and financial characteristics of each case study. This aligns with Maxey's (2007) definition of

sustainability because operational and financial characteristics are the result of social and political negotiations which create different versions of sustainability, as will be demonstrated in the following chapters.

Ragin (1997) argues that CCA allows the selection and analysis of cases that differ relatively little from each other regarding their outcome. AFN literature assumes box schemes and CSAs differ little from each other in terms of their operational and financial characteristics and their aim to achieve sustainability. By analysing these assumed small differences, the research is able to ‘penetrate the empirical surface to deep structures’ (Piekkari and Welch 2018:355). Thus, moving beyond the assumption that AFNs aim to be sustainable to how and to what extent sustainability practices occur.

CCA or CE allows this research to concentrate on the operational and financial characteristics of each case study and how they relate to the practice of sustainability. Therefore, the objective of the research is to assess the similarities and differences between characteristics and how they lead to different ways of practicing sustainability (Ragin 1997). To this end the research needs multiple cases in order to compare characteristics. However, multiple cases do not mean a large number of cases because this would not allow for a deep understanding of the characteristics. Instead, 8 case studies have been selected which allows for the identification of several operational and financial characteristics and different ways of practicing sustainability.

Finally, CCA or CE are characterised for abductive research processes in which theory building and testing are happening in tandem (Welch et al. 2011). An abductive research process includes moments of deduction (when theories are proposed and tested) and induction (when ideas or questions are considered before data collection and analysis process and such process results in a theory or new lines of enquiry). Abduction is key to this

research because it allows it to move between QUAN and QUAL data or as Feilzer (2010:10) proposes between different types of knowledge and approaches to theory and data. It also allowed the research to implement analytical processes which did not always result in the furthering of research, but which were key to its development. Finally, abduction further links pragmatism, MM, case study and CCA or CE because all embrace uncertainty, letting the data speak and a flexible process in which the initial ideas, research questions and theoretical frameworks can be adjusted depending on new findings revealed by the data. This section has established that the ontology, epistemology and methodology adopted in this thesis have been chosen because they help the research find out how and to what extent sustainability values are achieved. As such pragmatism is the chosen research paradigm. The following section discusses the positionality of the researcher to establish how she influenced what can be known about the operational and financial characteristics of box schemes and CSAs.

3.2.3 Positionality

Teddlie and Tashakkori, (2009) argue that every researcher has an underlying reason or motivation to conduct research. In this case the reason comes from my previous professional experience as a project officer at UK charity Sustain and as a co-owner of Calabaza Growers, a peri-urban farm in London. My job at Sustain introduced me to the local food sector in London through the Capital Growth project which helps communities start food growing spaces in the capital. Through this project I worked with several London box schemes which had started their own urban food growing spaces. In 2012 I began working at Calabaza farm where we produced non-certified organic produce for box schemes in London. My work at Sustain provided me with an understanding of the local food sector, its stakeholders and its relationship with local, city and national government. At Calabaza I learned the ways in which box schemes operate and how they interact with growers. As documented by Maxey, (2006) and Galt, (2013) there was a high degree of fragility and self-exploitation at Calabaza.

I was able to afford working there due to my job at Sustain and personal savings. My interactions with the box schemes showed that fragility and self-exploitation were not exclusive of our operation but also theirs. As such I wondered how economic fragility could be overcome to ensure the security of both the grower and the box scheme. This was crucial when an opportunity to expand the farm operation presented itself and we considered if our clients were secure enough to ensure ongoing purchases and thus allow us to invest in the expansion. Also, I was aware of the little support both box schemes and small growers receive from all levels of government and therefore an expansion felt as a high-risk solitary endeavour which, if failed, would put me in a dangerous financial position. Ultimately the economic fragility and self-exploitation led me to leave the farm.

My PhD supervisor Moya Kneafsey and my second supervisor Ulrich Schmutz formulated the PhD aims and objectives in partnership with Julie Brown, director of Growing Communities (hereinafter refer to in this chapter as GC), a London box scheme. Coventry University provided a studentship for their proposal which was granted to me in 2015. As such, two academics and one practitioner were my supervisory team. My experience in the sector questioned whether it was economically strong to support both box schemes and growers. The initial aim of the PhD was to investigate the economic value, impact and scalability of ‘community-led’ trade initiatives. Therefore, the PhD was an opportunity to understand the condition of the sector from an academic perspective.

3.3 Methodology

As mentioned before, MM allows multistrand designs. A strand is the analytical process of conceptualising, experimenting and inferring. This research implemented four analytical processes: Better Food Traders, national box scheme and CSA survey, case studies QUAN analysis and case studies QUAL analysis. This section will recount how each of these

analytical processes was developed. It will describe the purpose of each process and the methods used. By doing so the section will explain how MM was abductively implemented.

3.3.1 Better Food Traders

The first analytic process was the Better Food Traders. In 2016 GC began to set up the Better Food Traders (BFT). This is a network organisation of community-led trade initiatives which aim to differentiate themselves by agreeing to meet a set of principles proposed by GC. To this end the organisation would create a system that would a) assess how enterprises met the GC principles and b) collect data that would demonstrate the impact of the BFT network.

Both aims were closely linked to my research therefore if I contributed to the design of the BFT system, I would also develop the aim of this PhD. The founding members of BFT would be GC and nine other box schemes set up through its start-up programme. My role involved refining the GC principles, and draft an application form which was the first attempt to create the BFT system. A test phase was implemented with two box schemes which included completing the application form and a face-to-face interview. Interviews were transcribed and analysed following the application questions. This initial process raised two issues.

The first issue was borne out of a question: if the output of this research is a numeric figure of the economic value and impact of 'community-led' enterprises, then would this figure confirm that the GC principles are agreed and achieved by all the enterprises that took part in the calculation? And if so, is it necessary to explain how these principles are achieved to legitimise the figure? In other words, a figure would confirm that 'community-led' enterprises meet GC's principles and have a positive economic impact. However, critical AFN literature and my own experience demonstrated that a positive economic impact was not always possible. As such there was a step missing before evaluating economic impact which was to understand how principles are achieved and therefore influence economic impact.

Principles are what sets apart the start-up programme box schemes from other independent retailers. As such they must impact their economic value, for example the profit they are able to earn must be reduced if they pay farmers fairly or there is a negative economic impact on customers if they charge more to pay farmers fairly and maintain a profitable enterprise.

Principles must also change the impact of box schemes because impact should reflect social, economic and environmental sustainability practices. Finally, principles can also affect the scalability of the sector because UK food production may not be enough to scale up the sector. Since principles change economic value, impact and scalability then to understand what this means in the context of box schemes, research must understand the values of the enterprises, how these are operationalised and to what extent.

Second, the analysis demonstrated the limited capacity of the box schemes to meet all GC's principles which call for practices like community development, inclusivity, campaigning and a framework for sourcing. Instead, the focus of these enterprises was to ensure their continuation, it was more practical. For example, building and securing a customer base, financial management, and the correct delivery of bags weekly with produce customers desired. It was not that they disagreed with the principles, it was that limited capacity impeded the achievement of some of them. This demonstrated that when a set of principles are applied to different AFNs, they do not always have the capacity to meet all of them, even when these AFNs may seem homogenous as is the case with the start-up programme box schemes. As such the analysis of principles must come from within the enterprise.

In February 2017, GC decided to scale down the BFT process due to lack of capacity. This meant not circulating the application form to the rest of the start-up programme box schemes. Understandably, their focus shifted to fundraise for these activities. But as my data collection depended on this process it was decided that I would instead develop a different approach. Although the work with GC did not progress my research, it contributed the two issues

mentioned. Having understood these and the limitations they posed for the proposed aim and objectives I began the second phase of the study.

3.3.2 Transitional phase – after BFT and before box schemes and CSAs

Before describing the rest of the analytic processes, it is useful to discuss the decisions taken at this point in the research and how thinking was developing. Due to my previous experience with box schemes and because the first phase had mostly focused on them, I decided to continue working with box schemes. However, when it came to defining box schemes, it was challenging to differentiate them from CSAs, as discussed in Chapter 1. As such I decided to include both box schemes and CSAs. This meant dropping the term ‘community led’ as this was bounded to BFT, the GC principles and it tried to encompass not only box schemes and CSAs but any other independent retailer.

The first phase of the research led to the discovery of the Values Based Supply Chains (VBSC) literature. Following the pragmatist principle that methodologies must be design to answer the research question (Feilzer 2010, Oktay 2012), this literature became highly influential in the research design of the second phase. VBSC studies use two types of research methods: Case studies (QUAL) such as Bloom and Hinrichs (2010), Lev and Stevenson (2011) and Diamond and Barham (2011) analyse in-depth operational and financial characteristics of food hubs therefore providing an understanding at the individual level. Surveys (QUAL) such as The US National Food Hub Survey series (2013, 2015, 2017) and the Food Hub Benchmarking Studies (2013, 2014) analyse food hubs at a country wide scale, thus explaining food hubs as a collective. As such it was decided to follow these methods by implementing a survey and case studies.

3.3.3 National box scheme and CSA survey

The second analytical process was to develop a box scheme and CSA survey. The survey was an early exploratory exercise to confirm or challenge some preconceived notions of the box scheme and CSA sector in the UK. As it was inspired by the US National Food Hub Surveys and the Food Hub Benchmarking studies the motivation was to also paint a picture of the box scheme and CSA sector in the UK based on their operational and financial characteristics. No academic study had surveyed box schemes and CSAs in the UK and therefore there was lack of information about the size and nature of the sector. The design of the survey was guided by the VBSC studies and Lobley et al. (2005). It had six sections: type of box scheme or CSA, enterprise logistics and operational information, employee and volunteer information, business structure, financial information and demographic information, a total of 51 questions. A copy of the survey is included in appendix 4. The survey collected QUAL data through open-ended questions and QUAN data through closed-ended nominal questions and, the employee and volunteer section and financial sections (Teddlie and Tashakkori 2009, Dillman et al. 2014). A first draft was tested by seven people who work in the sector. Their feedback was incorporated into the final survey. The survey was launched online in 26 April 2017 and closed on 26 July 2017.

A strategy was designed to increase survey response rate following Dillman et al. (2014). A list of box schemes and CSAs in the UK was prepared using an existing list provided by The British Organic Box Schemes Association and an internet search. A total of 235 box schemes and CSAs was identified. The survey was promoted through a postal invitation sent to all contacts followed by an email and finally a hard copy survey sent through the post. Further promotion included a website which explained further the aim of the survey and a link to it; a promotional campaign on Twitter; an article on the summer edition of the Organic Growers Association magazine mostly subscribed to by independent growers; and attending sector

events to promote the survey. In total 50 surveys were completed (42 online and 8 postal), a response rate of 21%. Data was analysed using descriptive methods. No statistical analysis was applied (Teddlie and Tashakkori 2009).

The survey does not feature as much in this thesis as initially planned. In hindsight, aiming to provide a clearer picture of the sector was too ambitious. For example, the food hub surveys are developed as a funded project where the expertise from academics, government officials, campaigners and practitioners are pulled together to design, collect data and analyse results. As such, aiming to do the same within the context of this PhD, which has a different research question, was too ambitious. When the survey was designed it was believed that it would help define some main operational and financial characteristics of box schemes and CSAs. But, an issue was the limited understanding of the operational and financial characteristics of box schemes and CSAs at the time of the survey design. Therefore, when data was analysed it was revealed that the survey was limited in the information it could provide. For example, information on the financial performance of the enterprise in the past year was collected, but it did not show how it was achieved. Reflecting now on the process, it is concluded it was too early in the research process to implement a survey. Moreover, although the research was going to implement case studies, following VBSC literature, in hindsight it is also concluded that case studies were the most suitable method to answer the research question because they allowed a deep understanding of operational and financial characteristics which was also critical to design a better survey.

Having said that, the survey was useful in several aspects. First it helped in the selection of case studies as will be explained in the following section. Second, it helped to shape thinking around operational and financial characteristics and how data for case studies should be collected. Third some questions were useful, especially in terms of operational characteristics, and results have been included in Chapter 4. Finally, a fourth aspect is that the

survey analysis helped shape a new methodology to analyse the wages of box schemes and CSAs both in the survey and case studies. The results of this analysis are included in Chapter 6.

3.3.4 Case Studies

Case studies were implemented following the methodologies found in VBSC literature. This literature was also influential in the research design of the case studies, mainly Bloom and Hinrichs (2010) and The Food Hub Benchmarking studies. Bloom and Hinrichs (2010) examine how conventional wholesalers selling local food implement the VBSC framework by examining a rural and urban AFN. For each network they interview producers, the wholesaler and buyers. The Food Hub Benchmarking studies include a section on financial benchmarking which is analysed through the 5 Line Income Statement (5LIS) method. As at this point the research had embraced this literature, it was believed that following these methods would help to understand the economic value, impact and scalability of box schemes and CSAs. As such the research design included two interviews with the box scheme manager, one interview with two suppliers and three years of financial statements.

The case study selection mixed volunteer and purposeful sampling. Volunteer, or self-selecting sampling, is one where volunteers agree to participate in a study. Purposeful sampling is based on selecting case studies for specific purposes based on the research question. (Teddlie and Tashakkori 2009). The recruitment of case studies was initiated through the survey. It asked survey respondents whether they wanted to take part in the research as a case study. Of the 50, 25 responded yes and were contacted with the research design information. Five enterprises responded to confirm their participation as a case study. These were Future Farms, Canalside, Growing Communities, Cambridge Organic Food Company (COFCO) and Exeter VegShare. The low response rate evidenced that the research

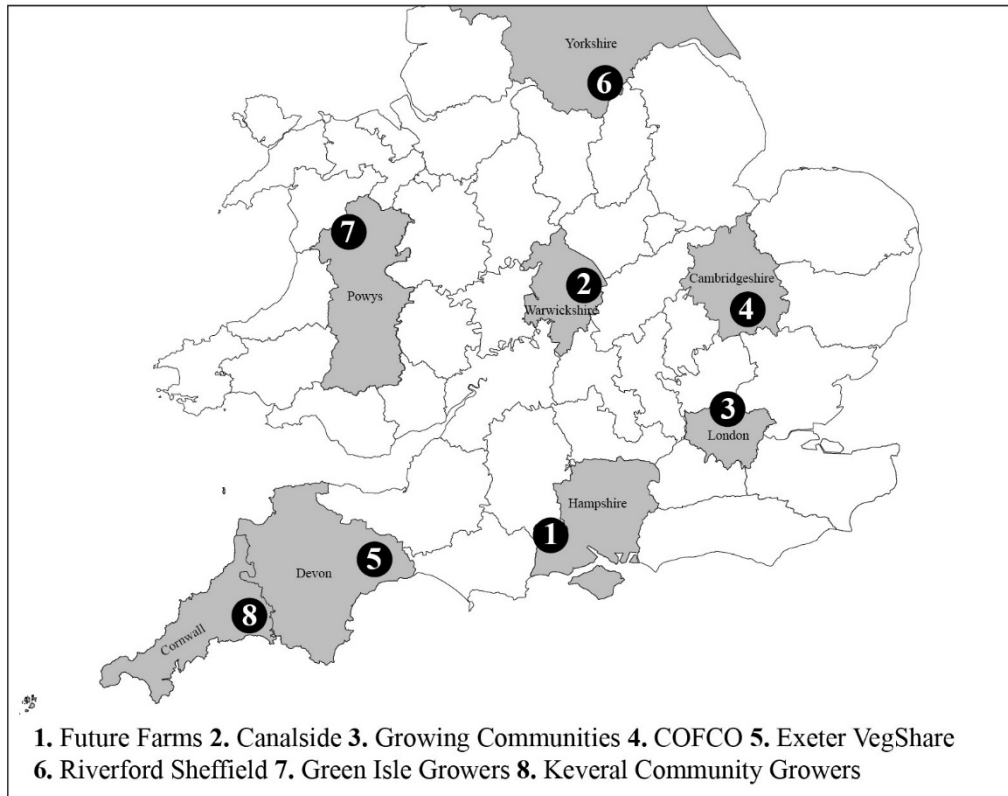
design demanded a considerable input from participants. As such, these case studies were selected under volunteer sampling because they agreed to invest time and effort to participate in the research. However, they did not represent enough variety in characteristics such as buying and not buying produce, customer base size, geographic location, scale of operation (local or national) and type of individuals driving the enterprise (growers, customers or entrepreneurs).

As such, purposeful sampling was implemented. Green Isle Growers and Riverford were recruited at the Oxford Real Farming Conference. Green Isle Growers was included because it is farmer-led and is based in Wales, two characteristics that the other case studies did not have. Riverford was included because it is one of the biggest box schemes in the UK, alongside Able and Cole, thus adding a national box scheme into the sample. However, because of Riverford's size, it was decided to only work with the Sheffield franchise which also added a new geographic location. Finally, the research wanted to include a farmer-led box scheme in which the family (usually husband and wife) are involved in the production, marketing and administration.

Through my membership to the Organic Growers Alliance and my experience in the sector, I can say this is one of the most common type of box schemes in the UK. A new call for this type of case study was communicated to survey respondents. Keveral Community of Growers was the only one to respond. But, its characteristics were unlike the ones the research was looking for. Nonetheless, it was very similar to Green Isle Growers as it was also farmer-led. Thus, it was included to contrast it with Green Isle Growers. As such the sampling strategy combined purposeful and volunteer sampling due to the onerous nature of the research and to have enough variety of case studies in terms of buying and not buying produce, customer base size, geographic location, scale of operation (local or national) and type of individuals

driving the enterprise (growers, customers or entrepreneurs). Figure 3.1 shows the geographic location of the case studies.

Figure 3.1: Geographical location of case studies



Source: Author

Before collecting data on the case studies, practitioners were invited to a workshop to consult them on how the research was going to develop the case studies. The workshop was attended by 2 people working in NGOs, two box scheme directors, and one organic grower. The main concern of practitioners was that they could not identify sustainability values within the VBSC framework, which at this point was being used as the conceptual framework. They suggested to identify the values the VBSC framework advocates for and cross reference them with sustainability values. From this analysis nine themes emerged which address social, economic and environmental sustainability values. Employees and volunteers and fair trade addresses social sustainability. Infrastructure, operations and services, finances, local economy and scaling up address economic sustainability. Finally, food producers and

suppliers, operations and services, and sourcing address environmental sustainability. These themes informed the structure of the interviews.

Open-ended interviews were chosen as the data collection method. They generate significant amount of data which allow for abductive processes, are usually used for unfamiliar topics such as the practice of sustainability values, and allow the researcher to explore themes previously unidentified (Teddlie and Tashakkori 2009, Bloom and Hinrichs 2011). A total of 28 face-to-face interviews were conducted each of an average of one hour. The interviews were performed in three stages. Stage one was the interview with the manager. Here four topics were discussed: employees, volunteers, suppliers and, operations and services. Stage two was the interview with suppliers. Relationship with customer, sourcing/production, pricing, supply and demand, fair trade and infrastructure were the topics were examined. Finally, the third stage was again with the manager to discuss finances, scalability and fair trade. Appendix 1 includes the interviews schedules. All interviews were recorded, and notes were taken during the interview. Following the 5LIS method, financial information was collected through the company's accounts. Three years of accounts were collected, rather than one as it was done in the benchmarking studies, to capture an average performance instead of just one year and have a more robust data source for analysis. The profit and loss statement, part of the company's accounts, were analysed before stage three so that the second interview with the manager was also an opportunity to clarify issues with financial data. Digital documents were also collected in the form of data displayed in the case studies websites (Saldaña 2011). This included information about case studies' suppliers, bag types and prices.

3.3.4.1 Case study characterisation

a. Future Farms

The case study is in Martin, Hampshire a village with a population of 398 people (Martin Parish Council 2019). Future farms is a CSA that began in 2004. Its aim is to provide residents with volunteer opportunities to strengthen village life, and a convenient retail service in an underserved area by supermarkets. The CSA began with a rented field and all the work performed by volunteers. Currently Future Farms grows vegetables and produces pork and eggs. These items are retailed through a village shop located in Martin, a weekly market at the village hall on Saturdays and through a box scheme which has 10 members. The market and the box scheme are only supplied with products grown by Future Farms. The village shop is supplied with products from wholesalers, farmers and Future Farms. Future farms has a membership scheme of 70 people who get discounts on the village shop and Saturday market. All the infrastructure used by the enterprise is rented. Future Farms uses a 2 acre field with polytunnels to grow vegetables, a 14 acre field to keep animals, a room in the village hall to run the village shop and the village hall to run the Saturday market. The enterprise has a website, but it does not have any facility for customers to interact with. The CSA employs 2 people part-time for food production. The rest of the roles are fulfilled by volunteers including manager, marketing and membership secretary, and village shopkeepers. Together they contribute 240 hours per month. Future Farms is a company limited by guarantee which aims to cover its costs and invest profits back into the enterprise. The enterprise has an average turnover of £52,509. Future Farms has received several grants throughout to fund capital expenses. Currently the enterprise is finishing a recovery process for which volunteers worked hard. As the enterprise is more stable, it plans to keep strengthening its finances and provide more paid hours to its employees.

b. Canalside

The case study is located 1.2 miles away from Leamington Spa, Warwickshire. Canalside is a CSA that began in 2007 from the convergence of the Leamington Spa Transition Town and Agenda 21 groups. The CSA started with a £10,000 loan from prospective members which allowed the enterprise to hire three part-time growers and, invest in inputs for the first year of production. The CSA grows vegetables which are retailed through a weekly share (bag) to 170 members. Occasionally when there is surplus the CSA sells to an independent shop in Leamington and to farmers in the area. The CSA strongly believes in supplying members with local, seasonal and sustainable produce and therefore only retails from its own production. The CSA recently purchased the ten acres where they have operated from since 2007. Infrastructure in this land includes seven polytunnels, field kitchen, professional kitchen, two caravans which serve as office space and staff room, compost toilets and a pole barn. The CSA has a website, but it does not have any facility for customers to interact with. Canalside employs four people: a head grower and assistant grower full-time and an administrator and finance manager part-time. There is a steady supply of volunteers who work twice a week and contribute 208 hours of work per month. Canalside is a Community Benefit Society (CBS) which aims to cover its costs and invest profits back into the enterprise. The enterprise has an average turnover of £78,534 per year. The CSA prefers to generate its own revenue and therefore does not apply for grants. However, in 2008 it received a grant for capital expenses to start its orchard. Due to the land purchase, in the next few years the CSA plans to focus on generating a surplus that will allow it to pay 2% interest for the community shares.

c. Growing Communities

Growing Communities is a box scheme based in Hackney, London. The enterprise began in 1993 from a group of friends wanting to put into practice social ecology proposed by Murray Bookchin. It was first set up as a CSA through a partnership with a grower outside of London and customers were spread throughout the city. Quickly the group realized that the farm was too far from customers to contribute in a meaningful way as expected in CSAs. Moreover, the enterprise did not want to be limited by the output of one farm. Therefore, the enterprise changed to its current structure and relocated to Hackney. Today Growing Communities is an enterprise of enterprises. It runs a box scheme, farmers' markets, urban food production sites, an urban farm shop, a small wholesale operation, and an urban grower apprenticeship program. The enterprise also fundraises for work in the community and to develop the local food movement. Growing Communities is supplied by a range of growers, farmers, food processors and wholesalers. Due to its urban location the box scheme buys most of its produce and it offers UK seasonal and unseasonal produce albeit giving priority to UK seasonal produce. It is organically certified by the Soil Association. The box scheme has 1,030 customers. Growing Communities rents all its infrastructure. The enterprise is based at a community centre located in an old fire station where they have their office, packing yard and cold stores. Urban food production takes place in nine small sites in Hackney and the Central Park Nursery in Barking and Dagenham. The nursery has five glass house and five polytunnels, office space, professional kitchen, toilet and storage space. The enterprise works with the software 'boxmaster' to manage their website which allows customers to subscribe and manage their subscription. Growing Communities employs 32 people on a full-time and part-time basis. There are also casual workers. Employees are distributed in six departments: Central operations, box scheme, farmers' markets, patchwork sites, Central Park Nursery and the Better Food Traders. Growing Communities only offers volunteer opportunities at their

food growing sites. Volunteers contribute about 351 hours per month. The enterprise is a company limited by guarantee with the aim to cover its costs and invest profits back into the enterprise or community development projects. It has an average turnover of £772,268. Growing Communities has received and continues to apply for grants initially to fund capital expenses and operational costs and currently for community development projects. The enterprise has invested in setting up a food hub (aggregation and distribution) focusing on working with box schemes in London. They are also looking to develop a scheme to donate more fresh produce to local food banks.

d. Cambridge Organic Food Company (COFCO)

COFCO was set up by Duncan Catchpole in 1997 with the encouragement of his father who had been involved in trading and growing organic produce. Duncan began selling vegetables boxes assembled by Organic Marketing Company (OMC). Soon, he realised there was demand for the service but that the quality of the vegetables wasn't consistent. So, he set out to improve it by sourcing better quality produce from newly converted organic growers. From the outset COFCO offered additional items such as canned products, cleaning items and dry goods as the enterprise had access to the stock from the shop. Currently COFCO retails its products through a box scheme and online shop. The enterprise buys all its produce from a range of growers, farmers, food processors and wholesalers. It offers UK seasonal and unseasonal produce albeit giving priority to UK seasonal produce. The box scheme is organically certified by Organic Farmers and Growers and has 700 customers. COFCO rents a 230 m² warehouse. It has office space, storage, walk in cold store and two roller shutter doors. The enterprise has a fleet of 6 delivery vans, three of which are electric. The enterprise works with software 'boxmaster' which means customers can manage their subscription and purchase from the online shop. COFCO employs 12 people: the managing director, two managers and two full-time and seven part-time box scheme operators. The enterprise is a

private limited company which aims to generate a profit which is used at the discretion of the owner. COFCO has an average turnover of £602,810 and the enterprise has never received grant funding. Since 2013 Duncan has been volunteering to develop Cambridge Sustainable Food which is the food partnership of Cambridge. One of the goals of the organisation is to set up a food hub. For the past two years Duncan has been working four days a week on developing the project. To support his work, Duncan has recruited a team of volunteers and university interns. This is the first time that the enterprise has appealed to volunteers. The food hub will be structured as a CIC, house COFCO and serve as an incubator for food processing enterprises in Cambridge. The role of COFCO will be to aggregate and distribute organic produce for businesses operating from the food hub, for the box scheme and for local institutional clients such as Cambridge University.

e. Exeter VegShare

Exeter VegShare is a box scheme based at the University of Exeter, Devon. The idea of setting up a box scheme was instigated by the National Union of Students (NUS) 'Student Eats' programme which helps students set up food enterprises on universities' campuses. The student guild at the university learn about the programme and approach the students of the food security and sustainable agriculture Masters degree course to muster interest. A group of four students set up a committee, applied and were granted a £1,000 grant for start-up capital costs. The grant also provided training in setting up and business management. The box scheme launched in 1st March 2017 with 17 customers. Exeter VegShare was supplied mainly by Shillingford Organics only local, certified organic produce. The box scheme has 40 customers per week. Due to the transient nature of student life, customers did not subscribe. The enterprise did not have any major overheads as it operated from the student's guild building and the guild provided accountancy services. Because the funds came through the NUS, it was the students' guild who managed the grant and the finances of the scheme. As

such the Exeter VegShare was not an independent enterprise but part of Exeter's University Student Guild. The box scheme employed one coordinator, two student leaders and three casual workers. All employees were students and worked on a part-time basis. The enterprise aimed to cover its costs and invest profits back into the enterprise or on community development projects. In its first year of trading the scheme had a turnover of £18,839. Unfortunately, the scheme ceased trading in December 2018.

f. Riverford Sheffield

This a franchise of Riverford and was set up by husband and wife Chris and Mary in 2007. Both were working and looking to change their lifestyle as they wanted to start a family. Mary and Chris were clients of Riverford so when they saw the opportunity to start a franchise in Sheffield they jumped to the idea. Riverford is divided into the headquarters in Devon, four regional farms and 70 franchises. Riverford oversees sourcing and buying all food products, grading, washing and packing, logistics to transport products around the country, design the vegetable boxes, packaging, develop new products, build a brand, marketing and manage the website. Riverford also has a wholesale enterprise that operates in Devon and Cornwall. Regional farms grow produce for Riverford, store produce and pack and deliver customer's orders to the hubs. Riverford's franchises pick up customers' orders from the hubs and deliver them door-to-door, and process customers' payments. This means that the franchise buys already packed orders from Riverford. Customer recruitment and customer service are shared between Riverford and its franchises. Therefore, franchises are independent businesses, but Riverford works with them to meet sales targets. Riverford is organically certified by the Soil Association and offers UK seasonal and unseasonal produce albeit giving priority to UK seasonal produce. The enterprise is supplied by Riverford's own production, farmers' cooperatives, independent farmers and wholesalers in the UK and Europe. Riverford retails through a box scheme and an online shop which are both managed

through their website. Franchises operate with very low overheads as they do not keep stock. Riverford Sheffield has an office at Chris and Mary's home and three delivery vans. The enterprise has four employees, two managers and two drivers. The enterprise is a business partnership with the aim to generate profit which is used at the discretion of the owner. Riverford Sheffield has an average turnover of £629,487 and the enterprise has never received grant funding. This research will focus on Riverford Sheffield. As such all analysis will be based on the data supplied by Riverford Sheffield. However, to understand the processes of the franchise, Riverford (headquarters) will be mentioned.

g. Green Isle Growers

The case study is in Machynlleth, Wales. Green Isle Growers is a box scheme set up by a group of colleagues from the nearby Centre for Alternative Technology (CAT) in 2013 with the idea of supplying organic, local food to people in Machynlleth and surrounding villages. In the first year Green Isle Growers grew all the produce from one site. After this, they realized that growing all the produce and running the CSA was too much effort. Whilst they were looking to transform the enterprise, they met other small growers looking for secure markets to trade their produce. Together they decided to transform Green Isle Growers into a box scheme of growers in 2014. This meant the growers run the box scheme which includes deciding amongst them a crop plan, prices, weights for packed items (for example salad bags), and pack and deliver vegetable bags. Produce is purchased from member growers and the box scheme supplements with wholesale produce albeit in small quantities. Seven growers are part of the partnership. Their operations vary in size and the level of experience. The box scheme has 50 customers and only operates six months of the year. The enterprise has two part-time employees and growers volunteer to pack and deliver bags. Green Isle Growers rents the local bowling club to pack bags and pick up points are used at no cost. The enterprise is part of Mach Maethlon which is a company limited by guarantee and aims to

cover its costs and invest profits back into the enterprise. Green Isle Growers alone has an average turnover of £5,239. As an umbrella organisation, Mach Maethlon aims to improve local food production and consumption. They do this through Green Isle Growers and three more initiatives: Edible Mach Maethlon is a funded project that helps set up community food growing spaces in Machynlleth and runs cooking workshops; Dyfi Land Share is a volunteer-based land matchmaking service between growers and landowners; And pathways to farming is a three-year funded project aiming to increase the production and consumption of local produce. It will do this by providing farmers with training and land, and by running events that will raise awareness of local food consumption.

h. Keveral Community of Growers

The case study is in Looe, Cornwall. Keveral Community of Growers was set up by nine residents of Keveral Farm in 1997. The farm has 25 acres of land, farm buildings and a farmhouse. It was purchased by a land cooperative with the purpose of managing the land ecologically and productively. Initially the enterprise was set up as a CSA. The group had little experience in farming and in running an enterprise. Inexperience coupled with the fact that the group was working and living together created tensions. After eight years the group decided to pass the entire operation to one of the growers. Quickly he realized that the workload was impossible to handle by himself and decided to transfer customers to other box schemes in the area. In this period the enterprise went from a £100,000 turnover to £25,000 and lost a significant number of customers and reputation in the area. The group decided to take back the enterprise and change the model. The land at Keveral was split and each plot was managed individually. The group partnered with a local farmer who supplied organic field scale crops. This evolved to include other local growers. Currently Keveral Community of Growers is an organically certified box scheme of growers. This means that growers come together to perform all the tasks required to manage the enterprise. At the beginning this work

was unpaid but as the enterprise has grown it has been able to pay growers and involve non-growers in the packing and delivery. This means growers have the choice of selling both produce and services to the scheme. The enterprise pays an administrator, two buyers and seven packing and delivery staff, all part-time and self-employed. Keveral offers UK seasonal and unseasonal produce albeit giving priority to UK seasonal produce. Keveral buys produce from three types of suppliers: Growers involved in running the scheme, local growers committed to the scheme but not working in it and Riverford wholesale who buys

Table 3.1: Case studies' characteristics

Case Study	Age (years)	Legal Structure	Average Turnover (3 years)	Number of employees	Summary of activities
Future Farms	14	Private limited company by guarantee	£52,509	2	CSA, Village Shop, Weekly market and own production (horticulture and livestock)
Canalside	11	Community interest company	£78,534	4	CSA
Growing Communities	2	Private limited company by guarantee	£772,268	30	Box scheme, farmers' market, urban food production sites, urban farm shop, small wholesale operation, and urban grower apprenticeship programme
COFCO	21	Private limited company	£602,810	12	Box scheme
Exeter Vegshare	1	Private limited company by guarantee	£18,839	6	Box Scheme
Riverford Sheffield	11	Business partnership	£629,487	4	Franchise box scheme of Riverford
Green Isle Growers	6	Private limited company by guarantee	£5,239	2	Box scheme, community development projects
Keveral Community	21	Not constituted	£52,954	10	Box scheme

Source: Author

regionally and imported produce. The enterprise has low overheads as they can access infrastructure at the farm and grower's vans are used for delivery. Growers are paid for petrol, wear and tear and insurance expenses. At the time of the data collection the enterprise was not constituted. It aims to cover its costs and profits are split between growers. Keveral has an average turnover of £52,954 and the enterprise does not receive grant funding. Table 3.1 shows the main characteristics of each case study.

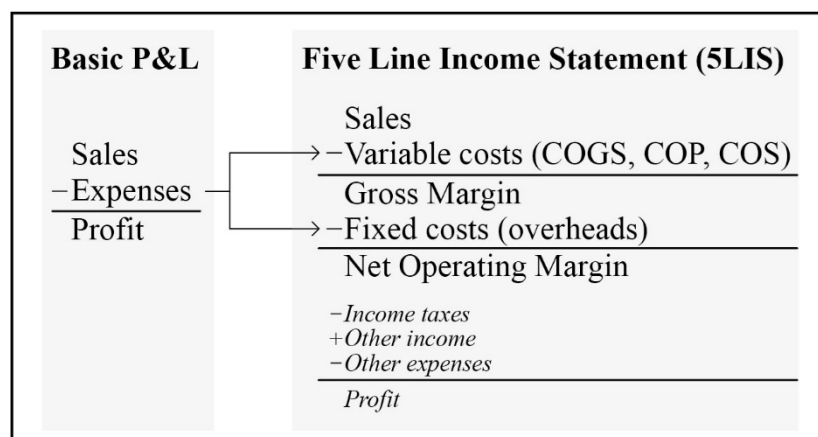
3.3.4.2 QUAN analysis

The third analytical process was the QUAN analysis of case studies' finances. Financial data was analysed through the 'five-line income statement' (5LIS) method. This method is derived from management accounting which is a type of accounting that aims to generate information for those managing a business (Drury 2015). The 5LIS method adopts the principles of management accounting but reflecting the financial characteristics of food hubs. The food hub benchmarking studies used the 5LIS to benchmark the profit and loss of food hubs. The National Good Food Network, author of the study, hope that by implementing the 5LIS, food hub managers will have better financial information which will help them to better manage their business and compare themselves with others through the benchmark study. Since food hubs, box schemes and CSAs are similar business models, as discussed in Chapter 2, this method to analyse profit and loss was also applied to the case studies.

The profit and loss account (P&L) informs the ability or inability of an enterprise to make profit by giving information on expenses and revenues generated. P&Ls can be formatted in different ways to highlight different information (Tiffin 2007). A basic P&L shows the income minus expenses and this should equate to the profit or loss of an enterprise (income-expenses = profit/loss). However, the 5LIS goes further by separating the types of revenues the enterprise generates and the types of costs the enterprise incurs according to the type of

activity the enterprise performs. This is important because enterprises in this sector perform a range of activities. For example, they can manage a retail operation, such as a box scheme, grow food and deliver services like cooking classes or host school visits. As such the 5LIS helps to determine if each activity performed by the enterprise covers its own costs (NGFN 2014). Figure 3.2 shows the components of the 5LIS and how it expands from the basic P&L format.

Figure 3.2: Five-line income statement (5LIS)



Source: NGFN (2014:11)

Case studies perform manufacturing, merchandising and services activities. Manufacturing is when an enterprise buys raw materials to convert them into finished goods for sale; merchandising which is when an enterprise buys and sells finished goods without altering them; finally, services is when an enterprise sells services (Drury 2015). An activity funded through grants is regarded as a service because the enterprise is 'selling' this service to a funder, for example, a project of cooking sessions for the community is 'sold' to a local authority.

The 5LIS is divided into two. The first part is the five lines. The first line is sales. Although Tiffin (2007) proposes that sales should encompass all the revenue streams of the enterprise, the 5LIS proposes that here it is only included the revenue generated from the commercial

activities of the enterprise, therefore manufacturing and merchandising only (Pirro and Matteson 2017).

The second line is variable costs. These are the costs that ‘increase with the amount of production and sales’ (NGFN 2014). Variable costs are made of Cost of Goods Sold (COGS), Cost of Production (COP) and Cost of Sales (COS). Each category represents a different enterprise activity as follows:

COGS: The costs incurred in merchandising, for example, produce purchased for resale.

COP: The costs incurred in manufacturing, for example, seeds, compost and water.

COS: The costs incurred in selling products, for example, fuel, bank charges for card transactions, and van hire.

The third line is gross margin. This is income minus variable product costs (Tiffin 2007). In other words, gross margin is how much of the sales proceeds are left after paying variable product costs (Boyd 2013). The fourth line is fixed costs. These are ‘those costs that allow you to open the door’ (Pirro and Matteson 2017). In other words, costs that do not change with the amount of production or sales. Examples include rent, repairs, maintenance and insurance. The fifth line is net operating margin. This is gross margin minus overhead expenses. In other words, net operating margin is how much of the sales proceeds are left after paying variable and fixed costs.

The five lines cover the manufacturing and merchandising activities. But food hubs, box schemes or CSAs also provide services. Therefore, the second part of the 5LIS deals with the revenue and costs generated by these activities and taxes. Other income represents the income that is generated through a service. Examples include grant funding, payment for a training session or donations. Other expenses represent the costs incurred in delivering such service. For example, in a training session an expense would be the salary of the trainer. Profit is the

money left after other income has been added to the net operating margin and income taxes and other expenses have been subtracted.

The 5LIS statement is a suitable method to analyse the finances of box schemes and CSAs for four reasons. First, it is the only method found in the literature that analyses the finances of AFNs. Second, it was developed by agricultural economists working with AFNs in the US to understand financially the sector and where its risks are (NGFN 2014). As such a third reason is that it has been implemented in the US to analyse the finances of food hubs and taught on training programs for food hub managers. A final reason is that the 5LIS helps managers work towards financial viability by showing them the parts of the enterprise which are, or not, viable.

P&Ls were reorganised into the 5LIS format between stage one and stage three of the interviews. This process was shown to the box scheme managers during stage three interviews when doubts were also resolved. An analysis of the overall results was performed in the hope to determine the financial performance of box scheme and CSA sector like benchmarking study had done for the food hub sector in the US. However, this was not achieved mainly because the sample was too small (8 case studies vs 48 food hubs). The aim of a benchmarking study is to compare performance, in this case financial, between different enterprises to identify opportunities for improvement (Oliver 2014). The food hub benchmarking studies compare the COGS, COP, COS overhead and profit across several characteristics such as size (measured in turnover), location, age, seasonality (open all year round or only during season), for profit or not-for-profit, and sales channel. The sample did not provide enough information to be able to make these comparisons. If the motivation behind a performing a benchmarking study was to provide the sector with useful data, it was unfair to publish a study with a small sample because top performance or average performance could be inaccurate. Some benchmarking studies are performed between just

two enterprises; therefore, it could be argued that the sample was big enough. However, it was unfair because the data collection and transcribing had shown that contextual circumstances limit the performance of some box schemes and CSAs. As such the issue noticed during the work with the BFT surfaced again, there was a step missing before evaluating economic impact which was to understand *how* box schemes and CSAs operated and how through those operations, they achieve their values. A further analysis was done once the qualitative analyses had been developed further and the usefulness of this data had been understood.

3.3.4.3 QUAL analysis

The final analytical process was the QUAL analysis of case studies. Interviews were transcribed and uploaded in NVivo. This is a computer-assisted qualitative data analysis software which efficiently stores, organises, manages, and reconfigures data to enable human analytic reflection (Saldaña 2016:48). Coding was chosen as the method of analysis because it enables the discovery of meaning in QUAL data. Codes are used to organise data according to patterns or characteristics which become emergent categories for further analysis (Saldaña 2011). For the analysis of QUAL data Saldaña (2016) proposes two coding cycles with their corresponding methods. First cycle coding methods are those that are applied during the initial coding of data. (Saldaña 2016) proposes 25 different types of first cycle coding methods. Second cycle coding methods are those that reorganise and reanalyse data after the first cycle. Saldaña (2016) proposes 6 types of second cycle coding methods.

Coding was performed in three steps according to the three phases of interviews. First and second cycle methods were implemented during the coding for all phases. The methods chosen followed the principle of pragmatism, that is whatever method is available that best serves to resolve the research question. First cycle coding methods implemented included

descriptive, in Vivo and values coding. Descriptive coding ‘assigns basic labels to the data to provide an inventory of their topics’ (Saldaña 2016:50). As it was the first coding method applied to all interviews it was done manually (Saldaña 2016). This method is appropriate for all qualitative studies and it is a good way for novice researchers to begin coding. In Vivo coding, from grounded theory, focuses on data related to behaviours and processes. As such, this method was applied to identify data related to the operational characteristics of box schemes, CSAs and their suppliers. Values coding is appropriate for studies analysing values and belief systems. This coding method was implemented following the advice of practitioners. Only focused coding, from grounded theory, was implemented from second cycle methods. This method searches for the most frequent or significant codes to develop overall themes within the data. This was especially useful after applying descriptive coding which created an overwhelming amount of codes. A copy of the codebook is included in appendix 2. Operational model diagramming was also implemented which according to Saldaña (2016) is a method to be used between first and second cycle but here it was implemented throughout the analysis. This method involves drawing diagrams to ‘disentangle the threads of the analysis and present results in a coherent and intelligible form’ (Saldaña 2016:25). Diagramming was particularly useful to move the analysis from data to categories, to themes, and finally to assertions.

In tandem with the coding process analytical memos we implemented. These work as research diaries where reflections and decisions about the data are documented. Following Charmaz the memos were written ‘like a letter to a close friend’ (Saldaña 2016:2). However, instead of writing about the coding process, the analytic memos were written about the analysis of each significant topic. A total of 27 analytical memos were written. During their writing, literature was consulted to help focus the analysis. This was especially important for operational characteristics and job quality. Initially operational characteristics were analysed

using supply chain management. This is a way to analyse performance by looking at how products, information and funds flow through the different stages of the supply chain (Chopra and Meindl 2013). However, this framework only showed the similarities between the supply chains of the case studies, not the differences. As such, data was analysed under the principle of competitive strategy, that is that the operations of the enterprise are the operationalisation of the values, and the values of the enterprise determine the operations. Applying this conceptual tool helped the analysis to link operations to values. Job quality literature did not have as important influence in the thesis as competitive strategy. However, it helped to link the data collected to specific elements of job quality and identify other areas of job quality not yet explored by AFN nor VBSC literature. As expected in an abductive process the coding methods and the writing of analytic memos were implemented more than once, sometimes in tandem, sometimes separately.

The data analysis process showed the shortcomings of the VBSC literature as explained in Chapter 2. It was during this process that Porter (1996) was found. The implementation of competitive strategy brought together and helped clarify several elements found in the research process. First, social desirability bias. Although the coding process had identified the values of box schemes and CSAs through the interviews there was a concern that these did not provide strong evidence of their practice and certainly, they did not evidence how they were operationalised. Competitive strategy bypassed the subjective reality of each case study in terms of their values by finding them in the objective reality of their operations. The second element was the two issues found after the work with GC. First, before evaluating economic value, impact and scalability there was a need to understand how values are practiced and to what extent. Second, the analysis of values must come from within the enterprise. Competitive strategy brought those issues back because it demonstrated how

values are practiced, it allows to study values from within the enterprise and the extent at which they are practiced by showing the trade-offs with other sustainability values.

A final step in the analysis was the implementation of sustainability as a process. This final piece in the puzzle led to the development of the theory of how sustainability values are practiced and to what extent by box schemes and CSAs. As such the research question went from an examination of economic value, impact and scalability to the understanding of how and to what extent sustainability values are accomplished. From this point there was a clear research question which led to the aims and objectives discussed in Chapter 1. Therefore, the data collected through the survey became secondary and emphasis was placed on the case studies. Despite this, survey data is featured throughout Chapters 4, 5 and 6 as supporting evidence for phenomena found in the case studies.

3.3.4.4 Bringing together QUAN and QUAL data analysis

Three methods of analysis were implemented to bring together QUAL and QUAN data. First, constant comparison derived from grounded theory. This a method to create theory from empirical data by comparing case to case (Oktay 2012). Constant comparison was used throughout the analysis to identify operational and financial characteristics. Then with the implementation of competitive strategy, to evidence how the operational characteristics aligned themselves to the values of each enterprise and find similarities and differences between them. Finally, the analysis of trade-offs between sustainability values is possible by comparing sustainability values within each case study. A second method of data analysis implemented was quantitizing which converts QUAL data into numbers (Teddlie and Tashakkori 2009). This was useful in the customer demand section in Chapter 5 where narratives about convenience, choice, variety, quality and, affordability and price were converted into numbers. Finally, a third method used was qualitzing which converts QUAN

data into narratives (Teddlie and Tashakkori 2009). This method was useful to allow the financial data to tell a story about how case studies approach financial viability.

3.3.5 Justification for methodological choices

Earlier in the chapter it was discussed that MM was chosen for several reasons. Now that the methodology has been presented it is useful to review these reasons to justify the choice of MM as a methodology. The first reason is that it allows for multistrand designs. The methodology section described the four strands implemented by the research: Better Food Traders, national box scheme and CSA survey, case studies QUAN analysis and case studies QUAL analysis. Each phase and strand informed the next and therefore the research question, aims and objectives evolved with the process. Within the family of MM designs this is a sequential mixed design (Teddlie and Tashakkori 2009) where in this case the chronological order of the analysis was QUAL-QUAN-QUAN-QUAL. This leads to the second reason for using MM which is that it allows the use of QUAN and QUAL data. The use of both types of data was essential to understand case studies in terms of their social, economic and environmental elements. Finally, MM allows for the formulation of theory from data. This feature is essential for the application of conceptual tools such as competitive strategy and sustainability as a process because both demand a thorough look at data. For competitive strategy is imperative to understand the relationship between the aim and operations of an enterprise (Porter 1996). Similarly, sustainability defined as a process requires a deep understanding of what those involved in sustaining want to sustain and how. Through analysing the competitive strategy and sustainability of each case study the research was able to formulate theory and evidence it with empirical data.

It could be argued that the methodology implemented was grounded theory. Grounded theory methods consist of systematic, yet flexible guidelines for collecting and analysing qualitative

data to construct theories from the data themselves. Thus researchers construct a theory *grounded* in their data' (Charmaz 2014:2). Some methods and features from grounded theory were implemented such as in Vivo and focus coding, constant comparison, analytical memos and an abductive process with a multistrand design. There are four key components of grounded theory which are constant comparison, theoretical sensitivity, theoretical sampling and theoretical saturation (Oktay 2012). Constant comparison was implemented as already discussed. Theoretical sensitivity is the capacity to be analytical, to be able to take the analysis from the data to a theory (Oktay 2012). The following chapters will demonstrate how these two key components were implemented. However, the next two components, theoretical sampling and saturation, were not implemented in this research. A theory developed through grounded theory should be tested through similar situations using theoretical sampling. As such, sampling is not determined in advance but changes as the study evolves. From sampling several similar situations, the research arrives to a point of theoretical saturation. That is, all samples fit within the theory and no new data can be drawn from them (Oktay 2012). None of these components were implemented in this research due to time and capacity constraints. It would have been ideal to implement theoretical sampling and saturation. However, to complete a PhD a line must be drawn and in this case that meant not implementing grounded theory. Indeed, Oktay (2012) argues that it is hard to predict how long a grounded theory study will take. Given the demands of grounded theory and the limits of this study it could not implement a grounded theory methodology, nevertheless it adopted several features from it.

3.4 Research ethics

Since the research evolved through five strands (BFT work, the national box scheme and CSA survey, QUAL analysis - financial characteristics- and QUAN data analysis - operational characteristics) five ethical applications were submitted to the university's ethical

approval system. A copy of the latest ethical approval is included at the beginning of this thesis and the rest in appendix 5. The applications described in detail the purpose, desired outcomes and research design. Participant information sheets, consent forms and a copy of the survey were attached to their corresponding application. Different information sheets and consent forms were written for box scheme managers and suppliers. Copies are included in appendix 3. In terms of interviews participant information sheets and consent forms were sent to participants before the interview and these were reviewed and signed before the recording began. For the survey participant information and consent form was included within it. Participants could not submit the survey if they did not agree to the consent form. All data was stored in the secure One Drive cloud of Coventry university to ensure data protection.

A specific ethical issue is the use of case studies names in the thesis. This was done following VBSC literature where case studies' names provide greater clarity. The consent form included a clause in which the participant agreed for the name of the business to be disclosed in publications so long as the text was reviewed by the participant. The chapters which include the names of the case studies (Chapter 3,4,5 and 6) were sent to the participants before submission for review and they were approved.

3.5 Data quality

Data quality in mixed methods (MM) research depends on the quality of the QUAN and QUAL data. If the quality in both strands is satisfactory then the overall MM study is of high quality. (Teddlie and Tashakkori 2009). The chapter has already discussed issues of QUAL data quality to determine how values are achieved and to what extent. Social desirability response bias may miss socially undesirable characteristics of AFNs and therefore present an inaccurate picture of sustainability. To avoid this, this research collected information on operational and financial characteristics rather than on opinions, views and motivations of

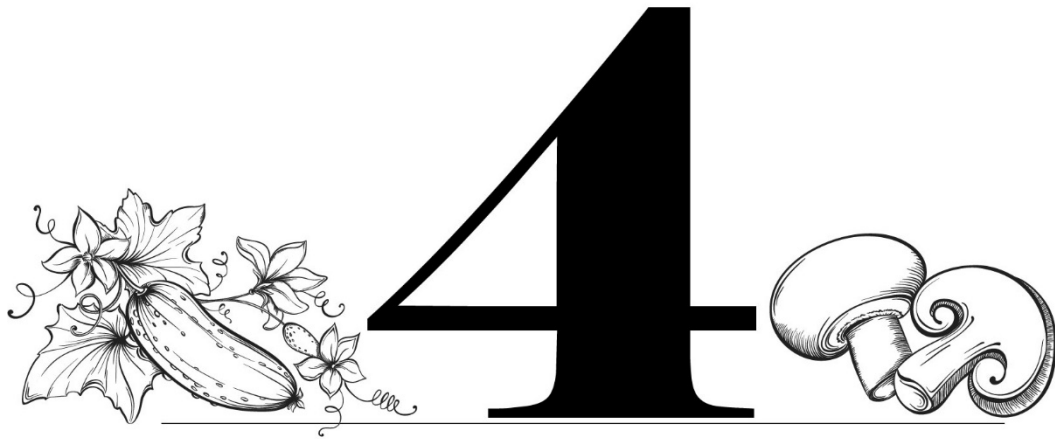
those involved. On the other hand, the research found that ensuring quality in QUAN data was more challenging. Farmers are not well known for keeping accurate records as found by Galt (2013) and NGFN (2014). This practice is extended to some box schemes and CSAs in the sample. Two cases did not keep accurate records of their finances. The P&Ls used for the financial analysis were put together by the researcher from information supplied by the case studies. These cases kept several records that when put together did not always coincide. As such, in these two case studies the P&L used is the best approximation to their actual spending.

Another data quality issue relevant to this research is quantitizing and qualitzing. Converted data may not accurately depict the inherent meaning in the original data (Teddle and Tashakkori 2009). The research will show that the qualitized data fits with the findings from the QUAL analysis. In other words, the qualitized findings are corroborated by the qualitative data. The qualitized data cannot be corroborated with any other data collected or existing literature as this is the first study defining and measuring convenience, choice, variety, quality and, affordability and price. Further research and collaboration with practitioners could refine this framework.

3.6 Summary

The chapter has described the research paradigm and methodology that this thesis will implement. It argued that pragmatism and mixed methods are suitable research paradigm and methodology because they allow the use of QUAN and QUAL research methods. Given the paradigm, the chapter explained how ontology and epistemology are interpreted to accommodate the subjective and objective aspects of researching operational and financial characteristics. Such interpretation helps to avoid social desirability response bias. Then the chapter described the journey of implementing the methodology through the four analytical

processes: Better Food Traders, national box scheme and CSA survey, case studies QUAN analysis and case studies QUAL analysis. These analytical processes contributed to the thinking and development of the research thus making it an abductive process. Finally, the chapter addressed research ethics and data quality. The following chapter is the first of three results chapters. It aims to describe the operational and financial characteristics of box schemes and CSAs. By doing so the chapter will evidence that there is great diversity in the way box schemes and CSAs operate and manage their finances.



Chapter 4

Operational and financial characteristics of box schemes and CSAs

4.1 Introduction

This chapter describes the operational and financial characteristics of box schemes and CSAs. The conceptual framework argued that data on operational and financial characteristics leads to the understanding of how values are operationalised. This chapter identifies such characteristics. Although they are conceived as homogenous, this chapter demonstrates that there is a great diversity in the way box schemes and CSAs operate and manage their finances. The chapter evidences this heterogeneity by identifying five main operational characteristics and two financial characteristics. This chapter contributes to the overall thesis by setting out the operational and financial characteristics that will be used in the following two chapters to demonstrate how sustainability values are practiced by box schemes and CSAs.

This chapter is guided by the operational and financial characteristics from VBSC literature, specifically those found in The US National Food Hub Surveys and the Food Hub Benchmarking studies developed in the US. It does not mirror these studies but rather uses them as a vehicle to identify characteristics that evidence the operationalisation of values.

The US studies present operational and financial characteristics to paint a picture of the sector. For example, age of food hubs, geographic location, business models and infrastructure. They also investigate further sourcing characteristics, for example producers' practices and certifications, sourcing from small and mid-sized farmers, sourcing distance, and purchasing or growing produce. These were essential to identify sourcing characteristics in the case studies. However, differently from the US studies, this chapter performs a deeper investigation of the rest of the operational practices that pertain to adding value to produce through aggregation and distribution. As such, packing, distribution and customer ordering methods are not included in the US reports but are featured here which means this chapter adds to the knowledge of operational practices. The need to identify these extra characteristics is that they operationalise sustainability values as will be demonstrated in Chapters 5 and 6.

Financial characteristics are also used to paint a picture of the sector in the US literature. For example, average gross, sales and non-sales revenue to evidence the size of the industry and net worth, current ratio, blended term and blended effective interest rate to demonstrate the average financial position and capacity to access credit of food hubs. This chapter uses some of these characteristics as a guide and the 5LIS method to analyse financial data. Importantly the chapter borrows the main financial principle prominently featured in both US studies which is that food hubs aim to be financially sustainable from their own resources (NGFN 2014, Fischer et al. 2015a, Colasanti et al. 2018). As such, the studies analyse food hub's dependency on grant funding as a percentage of gross revenue. This chapter also analyses grant dependency. However, differently to the studies (because case studies are used instead of a large sample) grant dependency is used to create typologies of how case studies approach financial viability. Therefore, this chapter introduces a novel method to study finances at a case study level.

This chapter has three main sections. The first describes inherent elements of the sector which shape operational and financial characteristics. Together these elements set apart box schemes and CSAs from the rest of AFNs. The second section focuses on operational characteristics. Five main characteristics have been identified: sourcing, packing, distribution, products and customer ordering methods. Finally, the third section concentrates on financial characteristics. It analyses financial viability in which three approaches are identified: market, equilibrium and dependency. Due to the level of detail involved in this chapter, appendix 6 is a fold-out map that can be found in a pocket at the back of this thesis. This map will help navigate and understand operational and financial characteristics and how these connect to Chapters 5 and 6.

4.2 Inherent characteristics of the box scheme and CSA sector

This section describes characteristics that have been identified in all case studies. They shape operational and financial characteristics and together they make the box scheme and CSA sector unique from other AFNs.

4.2.1 Bags and boxes

Box schemes and CSAs pack their products in boxes or bags. The use of boxes or bags is determined by the method of distribution which will be explained later. Case studies that use home delivery use boxes to easily fit them in a van. Case studies that require their customers to pick up use bags as it is easier for them to carry them home. The terms bag and box will be used interchangeably throughout the thesis to mean the product that enterprises offer.

4.2.2 The art of the bag

Box schemes and CSAs are required to offer customers a bag that has the right amount and combination of vegetables. To achieve this, staff implement a skill particular to the sector named *the art of the bag* which means designing a bag of vegetables with the right amount

and combination. The research identified patterns that staff implement to design bags based on 29 bag types mostly available in February 2019 from five case studies and interviews with managers. The types of produce found were classified into ‘base’ and ‘seasonal’ categories. Some produce may belong to more than one category, but the aim is to show manager’s perception of produce and the strategies they use to design the bag.

Base categories: At least two of these categories are always part of a bag. For enterprises using UK produce only these items are available most of the year. For enterprises using imported produce these items are available all year round.

- Basic items: Onions, carrots and potatoes.
- Root vegetables: Includes items such as beetroot, parsnips, radish, celeriac, swede, turnip, and sweet potatoes.
- Allium: Leeks, garlic, spring greens, wild garlic, chives
- Leafy crops
 - Soft: Mixed salad bag, stir fry bag, spinach, chard, pack choi, bok choy, mizuna, komatsuna, tatsoi, purselane, lamb’s lettuce and lettuce.
 - Hard: Kale, spring greens, cabbage

Seasonal categories: These categories are in the bag depending on their seasonality and buying practices

- Cucurbits: Squash, pumpkin, courgette and cucumber
- Brassicas: Broccoli (sprouting, purple, head, Romanesco), cauliflower, kohlrabi and brussel sprouts
- Legume: Peas and beans (broad, French, runner)
- Solanaceae: tomato, aubergine, pepper and chili
- Apiaceae: Celery, fennel and lovage

- Fruit: Apple, pear, banana, clementine, berries (such as black currant, blackberry and strawberries), rhubarb, kiwi, blood oranges
- Herbs: Basil, parsley, coriander
- Mushrooms

Produce is also perceived by box scheme managers and suppliers as high or low value. High value crops are more expensive. This includes all leafy crops described above and some base and seasonal crops like baby beetroot, radish, squash, purple sprouting broccoli and tomatoes. This produce is more expensive because it is grown on protected cropping space (greenhouse or polytunnels) and the costs of production and packaging are higher, especially labour. For example, a salad bag requires the cultivation of at least three different types of leafy crops. To sell it, leaves are harvested, mixed and packaged in individual bags. Together these activities require a significant amount of labour. Low value crops are less expensive. This includes basic items (onions, carrots and potatoes). They are usually grown in fields (field scale crops) with machinery which makes them less expensive. As such there are no costs in maintaining infrastructure (like there is with greenhouse or polytunnels) and labour costs in the production and packaging are lower.

It is worth highlighting that although there is a perception of high and low value crops, prices change throughout the year. For example, potatoes will be more expensive earlier in the season than towards the end. Enterprises that buy produce take into consideration price. As such they balance low and high value crops to provide the customer with a bag that has a variety of produce but also that stays within budget.

4.2.3 The hungry gap

There are no academic articles (in English) describing the hungry gap. As such, articles and websites written by practitioners in the UK will be used. Pears (2008) defines the hungry gap

as a period between late winter and late spring when there is not much to harvest. The lower amount of produce is due to winter crops' need to be planted by midsummer when space is still occupied by summer crops. If space is not allocated for them during the summer they won't be available during the hungry gap. Warrell (2019) identifies the hungry gap between April to early June. The difficulty with the hungry gap is the latitude at which Britain sits in. Here, if spring crops are planted in the autumn, they do not survive the winter. At the same time, as spring days get warmer winter crops do not survive heat and bolt (stop growing and produce seed and flowers). Hence the scarcity between April to June. Tolhurst (2016) proposes that the challenge for box schemes and CSAs during the hungry gap is the gradual shortage of variety and quantity of produce between February to June. An enterprise basing its marketing on 'direct sales' must deal with the hungry gap in order to maintain cash flow and customers. Possible solutions to the hungry gap include educating customers about seasonality, investing in protected cropping (greenhouse and polytunnels), storing crops in fields and barns, experimenting with varieties and heating protected cropping spaces with sustainable resources. Some of these solutions require capital investments that may not be accessible to everyone or do not accommodate to the growing systems of everyone.

4.3 Operational characteristics of the case studies

Box schemes and CSAs add value to produce by designing bags in which the components are sourced, aggregated and distributed. Although all case studies perform these activities, the way in which these operations are performed differ. The aim of this section is to evidence how the operational characteristics of sourcing, packing, distribution, products and customer ordering methods are performed, thus showing the differences and similarities in practice between case studies. This section will focus on the supply chain of fresh produce even though five case studies also trade other products. In the case of Riverford Sheffield, this

section will discuss both Riverford and Riverford Sheffield as they both contribute to the supply chain.

This section uses as a guide the US National Food Hub Surveys and the Food Hub Benchmarking Studies. However, three new operational characteristics are identified: Packing, distribution and customer ordering methods. It is suggested that these characteristics emerged because unlike food hubs, box schemes and CSAs are dedicated exclusively to selling to final consumers and therefore these characteristics are important because they set out the degree to which the customer interacts with the case study as it will be demonstrated in the following chapter. Food hubs selling to final consumers may implement similar operational characteristics, but these are not mentioned in the US studies. As such these characteristics are a novel contribution to the understanding of operational characteristics. A fold-out map with all the characteristics to be described in this section is included in appendix 6.

4.3.1 Sourcing

4.3.1.1 Production techniques

Production techniques describe the way in which produce is grown. When setting up a box scheme or CSA the enterprise must decide on the production techniques of the produce they are going to trade and whether they will be certified. Case studies use produce organically certified or grown with organic techniques but not certified. Survey respondents also reported sourcing organically certified, organic but not certified, plus conventional produce and combining them in different ways. Table 4.1 shows the production techniques of the produce each case study sources.

Table 4.1: Production methods of case studies' produce

Case Study	Organically certified	Grown with organic techniques
Future Farms		√
Canalside	√	
Growing Communities	√	
COFCO	√	
Exeter	√	
Riverford	√	
Green Isle Growers		√
Keval Community Growers	√	

Source: Author

4.3.1.2 Geographical origin

There are three aspects to consider about the origin of produce: Local, UK vs UK and beyond and local and seasonal vs variety.

a. Local

All case studies made reference to sourcing locally, but local is hard to define because it is socially constructed, scale is not fixed and can be described in many ways (Feagan 2007, Hinrichs and Allen 2008, Born and Purcell 2006). Equally, case studies have different definitions of local and practice sourcing locally in different ways. The research has identified three practices to source locally.

- Within the locality: For Future Farms, Canalside and Exeter VegShare local means that all produce is grown and consumed within their locality. For Future Farms local is within a 2km radius (1.25 miles), for Canalside is within a 15km radius (10-miles) and for Exeter VegShare it is within a 4.8km radius (3 miles).
- Within the locality of member growers: For Green Isle Growers and Keval Community Growers local produce means the produce supplied by member growers. Being close to the headquarters is important because member growers must contribute to the running of the enterprise, as will be explained later in the chapter. Therefore, the conception of local is based on what growers believe is close for them. In both

case studies member growers are located less than 32 km (20 miles) from the box scheme headquarters.

- As local as possible: For Growing Communities, COFCO and Riverford local means sourcing as local as it is practically possible due to volume needed and the location of the enterprises. Suppliers trading with these enterprises are based at a range of distances from the enterprise's headquarters. For example, Growing Communities closest supplier is within 1.6km (1 mile) and the farthest is 148km (92 miles) away; COFCO's closest supplier is 5.9km (3.7 miles) away and the farthest is 230km (143 miles) away. These enterprises also use wholesalers which means produce would have travelled even further as it could have been grown in the UK and beyond.

b. UK vs UK and beyond

This refers to enterprises that choose to trade UK grown produce only vs enterprises that choose to trade a combination of produce from the UK and beyond. Enterprises buying UK and beyond endeavour to source as much UK produce as possible which they complement with produce from abroad. Offering a combination of both allows the box scheme or CSA to have more variety in the bag. This is especially important during the hungry gap when there is less variety and availability of UK produce. Therefore, enterprises only offering UK produce have a limited offer during the hungry gap. It is assumed that enterprises that offer fruit bags include imported produce from Europe and beyond in their offer. This is because the UK fruit season is short and therefore does not sustain a year-round offer. Moreover, most fruit boxes include bananas which are only grown in Africa, Latin America, and the Pacific.

c. Local and seasonal vs variety

Local and seasonal vs variety combines the two aspects already discussed about geographical origin: local and UK vs UK and beyond. Enterprises that source local and seasonal purchase

UK produce only. Based on the case studies' definition of local, produce is either from within the locality or within the locality of growers. Enterprises that source variety purchase produce from the UK and beyond. Produce is either from within the locality of growers or as local as possible. The aim of these enterprises is to offer variety but giving priority to produce direct from farmers first and grown in the UK second. Produce from beyond complements this offer. All produce is seasonal to the place where it is grown, but not to the place it is consumed. Table 4.2 amalgamates all the geographical origin aspects: Local, UK VS non-UK and local and seasonal vs variety.

Table 4.2: Geographical origin aspects of case studies' produce

Case Study	Local			UK vs UK and beyond		Local and seasonal vs variety
	Within the locality	Within the locality of member growers	As local as possible	UK	UK and beyond	
Future Farms	√			√		Local and seasonal
Canalside	√			√		Local and seasonal
Exeter VegShare	√			√		Local and seasonal
Green Isle Growers		√		√		Local and seasonal
Growing Communities			√		√	Variety
COFCO			√		√	Variety
Riverford			√		√	Variety
Keveral Community		√			√	Variety

Source: Author

4.3.1.3 Procurement

Procurement explains how food is procured and from whom. Case studies procure produce by growing, buy in or both (hybrid). The most common practice amongst the case studies is to buy in, followed by growing and finally hybrid. However, the survey found that the most

common practice to procure is hybrid. Each practice involves a different procurement practice as follows:

a. Procurement for growing enterprises

Produce for case studies that grow comes from their own production. To successfully supply all year round, these enterprises grow base and seasonal produce. This means they have fields and protected cropping space (greenhouse and/or polytunnels). The farm size must be big enough to support the number of customers and enough staff must be employed. Canalside has a 3.8 ha (9.7 acres) site for 160 bags. Their production requires two full-time staff, seasonal workers and 208 hours of volunteer work per month. Future Farms has a 0.8 ha (2 acres) site for 10 bags. The site also supplies the village shop and the Saturday market. Production requires two full-time staff and occasional volunteer work. This model could potentially be high risk for the customer because if there is a crop failure, no produce will be offered to the customer.

b. Procurement for buy-in enterprises

Here procurement is more complex because it involves different types of suppliers. The research found 52 produce suppliers between six case studies and classified into four types as follows:

- Growers

Those dedicated to the production or manufacturing of vegetables. The roles growers play in the supply chain are determined by the size of their farms. The research found 43 growers in four case studies of which farm size was found for 29. Farm sizes range from 0.04ha (0.1 acre) to 202.3ha (500 acres) of organic production. The research found three types of organic growers supplying box schemes and CSAs:

- <4ha (10 acres): These growers cultivate leafy and seasonal crops. Usually they have a greenhouse or polytunnel. If fields are available, they cultivate field scale crops and seasonal produce. Because of limited space these growers cultivate a wide variety of high value crops. They believe that growing a wide variety all year round ensures the financial viability of the farm. Although the research did not collect information on the number of workers per supplier, from experience it can be said that this size of operation requires at least two and half employees full-time. These operations trade their produce through independent shops, restaurants and their own box schemes. One supplier in this group is a pear orchard, therefore some of them specialise in a narrow range. The range of farm sizes in this category is between 0.10ha (0.25 acres) to 4ha (10 acres). Of the 29 growers, 10 are in this category.
- 4 – 14.1ha (10-35 acres): These growers cultivate a mix of high value crops and field scale crops. Farms have protected growing space and fields. The difference with the previous category is that they also grow basic items: Onions, carrots and potatoes. This difference is important because it shows that the scale and experience of these businesses tends to be higher than the previous category. Growers employ specialized machinery to cultivate basic items. Like the previous category, they believe that having a wide variety of produce all year round ensures the viability of the farm. This category grows the biggest range of vegetables of all categories. As with the previous category no information was collected on staff numbers however one grower reported 12 employees. They trade their produce through their own box schemes, independent shops and farmers' markets. The range of sizes in this category is

between 4.8ha to 14.1ha (12 to 35 acres). Of the 29 growers 9 are in this category.

- >14.1ha (35 acres): Although this category has been named >14.1ha (35 acres) the average size of farm in this group is 89ha (220 acres). These growers believe that focusing on a narrow range of crops ensures the viability of their farm. However, some farms have other food production enterprises such as arable crops and livestock. So, they are not focussed only on horticultural production. These farms specialise in growing high volumes of a small range of field scale, low value crops. Crops grown include basic bag crops, brassicas, squash and fruit. As such they use specialised machinery to use less workforce. This allows them to supply an affordable product specially in the basic items category. These growers are not only supplying case studies but also national box schemes like Able and Cole and Riverford, wholesalers, and major retailers such as Aldi, Waitrose, Asda, Sainsbury's and Tesco. Of the 27 growers 10 are in this category.

- Wholesalers

Those who aggregate and distribute produce. The research identified four wholesalers from two case studies. Three of them trade organic fruits and vegetables from UK, Europe and beyond. One trades UK and European vegetables. They range in size and the type of clients they serve. For example, Phoenix Organics specialises in working with independent businesses such as box schemes and CSAs.

- Growers/wholesalers

Those who have a wholesale offer composed of their own production and bought in produce. The research found four growers/wholesalers in three case studies operating in different

ways. Hughes Organics and C&M organics have a small production like a <4ha grower. Hughes complements the wholesale offer by buying from local growers on the >14.1ha category. C&M complements with UK, Europe and beyond. The enterprises aim to have a wide range available to fulfil the needs of different types of clients. Both only work with independent businesses such as box schemes, shops and wholesalers. Shillingford Organics has a production similar to the 4ha-14.1ha grower category, albeit in a 18.3ha (45 acres) site. To complement the offer, they buy from local growers. The enterprise trades its produce through their own box scheme and a wholesale offer that serves shops, restaurants, box schemes, CSAs and a farmers' market. Finally, Langridge is one of the biggest organic grower/wholesalers in the UK. The enterprise carries a wide range of vegetables and fruit from the UK, Europe and beyond. Langridge's production is within the >14.1ha category. UK produce is sourced from growers in all categories mentioned above and specialist growers. European produce is sourced through growers, farmers' cooperatives agricultural agents and wholesalers. Produce from beyond Europe is sourced through wholesalers in the Netherlands and UK. Langridge aims to have as much produce as possible available to serve the needs of a wide range of customers which include Planet Organic, national box schemes such as Riverford and Able and Cole, caterers, independent shops and box schemes.

c. Procurement for hybrid enterprises

Growing Communities and Riverford have a hybrid procurement practice. Both enterprises buy from a combination of growers, wholesalers and grower/wholesalers as listed above. However, Riverford also buys from the South Devon Organic Producers (SDOP), a farmers' cooperative. SDOP has 10 members located in Devon and Cornwall. Most cooperative members have farms in the >14.1ha category but their organic horticultural production occupies only 4ha-14.1ha. A few have smaller or bigger farms. Its main customer is Riverford. The cooperative was founded by Guy Watson with the aim to increase local

vegetable supply to Riverford. As the box scheme grew so did the cooperative. The cooperative members aim to grow high quality and high volumes of produce by meeting the commitments agreed through a crop plan negotiated between them and Riverford.

Both case studies have their own production. However, the research did not collect information on Riverford's own production. Growing Communities' own production focuses on high value crops, specially salads. This is done in two types of sites. Nine patchwork sites of an average 70m² each located in Hackney; and Dagenham farm, an ex-council nursery of 0.68ha (1.7 acres). There is a total of 0.74ha (1.85 acres) of own production. Production requires one full-time staff, 19 part-time workers and 351 volunteer hours per month. Growing communities has 1030 members. As such the produce from their own production only represents 5.4% of the total produce sold. Their own production complements the box scheme offer. Crop failure does not have an impact on the bags' offer. The enterprise gives priority to its own production when designing the bag. However, the enterprise also wholesales this produce to local businesses.

4.3.1.4 Sourcing methods

The sourcing method explains how the enterprises use geographical location and procurement practices to design a weekly bag. All produce sourced is either organically certified or grown with organic techniques but not certified. The research identified five types of sourcing strategies between the eight case studies as follows:

a. Own production

The enterprises that implement this method have chosen to grow their own produce. Thus, produce is from within the locality and seasonal (UK only). Future Farms and Canalside employ this method. To have produce available all year round the enterprises design a crop plan around January that will inform the years' production. The enterprise designs the weekly

bag based on the crops available in their own production. However, the design must make sure that enough produce is left for the following week.

b. One supplier

Exeter VegShare implements this method. They have chosen to buy in produce from within the locality and, local and seasonal (UK only). As a new box scheme with a few customers, sourcing from one supplier is logical as it makes the delivery financially viable for both parties. Crop variety and availability are the responsibility of the growers contributing to the wholesale offer. This means each grower is responsible for their own crop plan. In this way if the wholesaler/grower's own production does not have enough variety or quantity it can rely on other producers. The design of the bags is dictated by the budget set by Exeter VegShare and the produce available from the wholesaler/grower.

c. Grower plus wholesaler

Green Isle Growers and Keveral communities practice this method and therefore choose to buy in produce within the locality. However, Green Isle Growers chooses to buy local and seasonal (UK only) and Keveral Community Growers chooses to buy variety (UK and beyond). Their aim is to give priority to member growers' produce and supplement with a grower/wholesaler. In both case studies most member growers are in the <4ha category to supply high value crops. But Keveral also has three 4ha – 14.1ha member growers that supply field scale crops including basic items. Green Isle Growers would like a 10-35ha grower but being in Mid-Wales is challenging to find a grower with such characteristics as most farmers are dedicated to sheep. Keveral also buys from local growers who are not members of the scheme. In both case studies grower members get together to crop plan for the year. The activity takes several meetings at the beginning of the year and growers agree quantities, frequency and prices. The crop plan is used as a guide rather than a set contract.

There are no consequences for those that do not manage to meet the plan. Bags are design based on the crops of the member growers and then complemented with produce from local growers and the wholesale offer.

d. Tiered sourcing

The enterprises that implement this method have chosen to buy produce that is as local as possible and variety (UK and beyond). This method was identified in Growing Communities and COFCO. The aim is to have a range of suppliers of different sizes and specialities supplying the box scheme. There are four tiers of suppliers. Tier 1 are <4ha growers supplying high value crops. In the case of Growing Communities, this tier includes their own production. Tier 2 are 4ha – 14.1ha growers which supply high value crops, field scale crops and basic items. Tier 3 are >14.1ha growers who supply field scale crops and basic items. Tier 4 are grower/wholesalers and wholesalers which supply UK produce from other regions, out of season produce from Europe and beyond, and fruits from UK and beyond. The design of the bags is dictated by availability of produce and budget. Priority is given to produce coming direct from growers. Growing Communities has formalised this process in a buying policy. None of the case studies work with their suppliers on a crop plan. However, at the beginning of the season Growing Communities calls all its suppliers and discuss the crops that they would like to buy from them. They also visit suppliers once a year.

e. Volume sourcing

This method is like the previous with the difference that this one seeks higher volumes from suppliers. Thus, produce is as local as possible and variety (UK and beyond). This method was identified in Riverford. They source from their own farms in the UK and France, directly from growers in the UK and Europe, growers' cooperatives, regional farms, and wholesalers in the UK and Europe. In terms of growers identified through Riverford's website and the

South Devon Organic Growers, all growers are in the 4ha – 14.1ha or >14.1ha categories. This is consequential as Riverford requires high volume of produce to supply 50,000 customers a week. Riverford has been sourcing from the South Devon Organic Producers Cooperative (SDOP) for 21 years. This shows that the enterprise is committed to establish long term relationships with suppliers. Riverford works with the cooperative, on a crop plan and quantities, prices and frequency of produce are agreed. Growers are expected to meet the crop plan, but no formal mechanisms are in place to reward or punish performance. However, in the following years' plans those that perform best are given priority in the crop plan. Excess produce is traded through the 'extras' part of Riverford's website, which advertises individual items in addition to the vegetable boxes, or through Riverford wholesale. Riverford also sources produce from its regional farms in Devon, Peterborough, Yorkshire and Hampshire. These in turn aggregate produce from growers in their corresponding regions. It is assumed that to secure produce Riverford implements contracts.

Table 4.3: Sourcing characteristics of case studies

Case study	Sourcing Method	Grow			Buy in					
		Farm sizes			Growers			Wholesaler	Grower/Wholesaler	Farmers' Cooperative
		<10	10-35	>35	<10	10-35	>35			
Future Farms	Own production	1								
Canalside	Own production	1								
Growing Communities	Tiered	1			3	4	1		2	
COFCO	Tiered				2	2	2	3	1	
Exeter	One supplier								1	
Riverford	Volume					1	7			1
Green Isle Growers	Grower plus wholesaler				3				1	
Keval Community Growers	Grower plus wholesaler				2	3		1		

Source: Author

Table 4.3 unites the information presented in the produce supply and sourcing sections. The table shows the sourcing method on the left column and the procurement practice at the top. Also, it lists the number of suppliers each case study has on each supplier type category. Note that the sizes of farms found in buy in enterprises have also been assigned to grow and hybrid's enterprises own production. Riverford's farms have not been listed as this information is not available. The suppliers listed are only those whose farm sizes were found. As such this table is not a definitive list of all the suppliers of each case study.

4.3.2 Packing

The research found that case studies' staff and customers pack produce. Seven case studies use their staff and one case study uses a combination of staff and customers. The survey found that of 50 enterprises, 39 use their staff, 5 customers and 6 a combination of both. Thus, the most common practice amongst survey respondents and case studies is staff packing. The process of packing for enterprises that use their staff involves receiving produce from suppliers or from own production, weighing and packing on bags/boxes. For Canalside this process is different. Not only because customers and staff pack, but also because the enterprise has its own production. Thus, they harvest and placed produce in crates in the collection room. Customers bring their own bags and pack their own produce according to the indicated weights. Canalside's staff also pack 10 bags once a week. Table 4.4 shows the packing practices of each case study.

Table 4.4: Packing practices of case studies

Case Study	Staff	Customers
Future Farms	√	
Canalside	√	√
Growing Communities	√	
COFCO	√	
Exeter	√	
Riverford Sheffield	√	
Green Isle Growers	√	
Keval Community Growers	√	

Source: Author

4.3.3 Distribution

The study found three distribution practices: Home delivery is when the enterprise offers a delivery service. Pick up point is when the enterprise drops off the vegetables at a place convenient for customers to pick up. Enterprises have several pick-up points which are usually independent shops, pubs and community centres spread throughout a neighbourhood to make it convenient. Headquarters is when customers pick up vegetables at the enterprises' headquarters. The survey also found these practices amongst respondents. They either apply one or a combination. The most common distribution practice is home delivery amongst both case studies and survey respondents. Table 4.5 lists the distribution practices of case studies.

Table 4.5: Distribution practices of case studies

Case Study	Home delivery	Pick up point	Headquarters
Future Farms	√		
Canalside		√	√
Growing Communities		√	√
COFCO	√		
Exeter VegShare			√
Riverford Sheffield	√		
Green Isle Growers		√	√
Keval Community	√		

Source: Author

4.3.3.1 Frequency

Packing and distribution are activities dependent on each other because when enterprises pack, they also distribute. The frequency at which this happens varies amongst case studies as it is dependent on the number of customers. The study identified three frequencies.

a. Once a week

Future Farms, Exeter VegShare, Green Isle Growers and Keveral Community Growers pack and distribute once a week in one day. This may be because they have the lowest number of customers. Growing Communities packs and distributes once a week. However, because of the number of customers these activities are spread over two days for packing and two days for distributing.

b. 3 times a week

Canalside offers its customers three collection days; however, packed bags are only distributed once.

c. Four times a week

COFCO packs and delivers four days a week. It is presumed that Riverford packs at least five days a week and Riverford Sheffield distributes four days a week. Both enterprises have an online shop. Therefore, high frequency is due to online shoppers who expect their goods promptly. COFCO offers delivery within 3 days. Riverford Sheffield offers 2-day delivery for orders placed Monday to Thursday before 11.45 pm.

4.3.4 Products

Enterprises offer a range of products. These can be divided into vegetable and fruit boxes, other boxes/bags and individual items

a. Fresh produce boxes

The types of fresh produce boxes are determined by their size and contents. Bag size is measured by the number of items the bag includes. This means the number of varieties the bag has, rather than the number of units the bag contains. Bag sizes range from two to fifteen items. Contents create several types of bags. The most common are vegetable bags, fruit bags and vegetable and fruit bags. The art of the bag section explained that bags are usually composed of basic items (potatoes, onions and carrots) and complemented with root vegetables, allium, leafy crops and seasonal vegetables. Another type are bags that exclude potatoes. Finally, an element related to bag contents that creates one more type is when the customer can customise the box, or box customisation. COFCO offers two customised boxes: choice bags which allow customers to choose whatever they want from a selection of produce, and the favourites bags which allow customers to choose three items to never go in the bag and three items to always go in the bag. Riverford allows customers to build their own box through a facility on their website and therefore price is set depending on the amount purchased. Table 4.6 shows the number of types of bags in each size and the total number of types of bags offered by each case study.

The survey also asked for the size of bags. Of 49 respondents, 26 have small (3 items), medium (7 items) and large boxes (11 items); 10 have small and large boxes; 5 have only medium boxes; 5 have a small, medium, large and extra-large boxes, 2 have small and medium boxes and 1 has only a small box. Of the 49 respondents 9 offer customised bags. This means that 63% of enterprises surveyed offer at least three types of boxes.

Table 4.6: Types of bags per size and types of bags per case study

Size	Case studies							
	Future Farms	Canalside	Growing Communities	COFCO	Exeter	Riverford	Green Isle Growers	Keval Community Growers
2 items				1				
3 items		1	1	1		3		
4 items			1	4		1	1	
5 items			2	3		1		1
6 items						1		2
7 items	1	1	2			5		2
8 items				2	1	6	1	2
9 items			2	5				1
10 items			2			5		
11 items		1						
12 items				1		1		
13 items				4				
14 items				3				
15 items				2				
Total bag types	1	3	10	26	1	23	2	8

Source: Author

b. Price

Prices are set according to the size and contents of the bags. A price comparison was performed based on a price per item. A price per item was calculated for each bag to be able to compare prices between all enterprises. This was done by dividing the price of the bag by the number of items it contains. Albeit it is understood that items are not worth the same, this was done for comparison purposes. An average price per item was drawn for each enterprise. The results show that the highest average price per item is from Riverford (£2.45 per item) and the lowest is from Exeter Veg Share (£0.88 per item). The average price per item was £1.63 and the median value was £1.75. Table 4.7 shows the average prices per item in each of the bag types. The last row shows the average price per item for each enterprise.

Table 4.7: Average price per item per bag type and case study

Type of bag	Case studies								Average for all
	Future Farms	Canalside	Growing Communities	COFCO	Exeter	Riverford	Green Isle Growers	Keval Community Growers	
Vegetables	£1.14		£1.29	£2.68	£0.88	£1.91		£1.88	£1.63
Fruit			£1.89	£1.06		£3.75		£1.53	£2.06
Vegetables and fruit		£1.85				£2.28	£1.50	£1.63	£1.81
No potatoes			£1.85			£1.87			£1.86
Customised				£2.03		Depends on purchase			£2.03
Averages for all products	£1.14	£1.85	£1.76	£1.73	£0.88	£2.45	£1.50	£1.76	£1.63

Source: Author

The table shows that box prices are set depending on the items they include and their level of customisation. Fruit boxes are the most expensive product. Furthermore, boxes that mix fruit and vegetables are more expensive by 0.18p per item than vegetable boxes. This may be because most of the fruit used is imported as the fruit season in the UK is short and does not have a wide range. There are four enterprises that buy only local and seasonal produce. Of these Canalside and Green Isle Growers have vegetable and fruit boxes but fruit is only offered when in season. Future Farms and Exeter only offer vegetable bags. The second most expensive type of box is customised boxes. Only COFCO and Riverford do these but the Riverford box was not included in the table as it does not have a set price. The system calculates the price based on the items chosen with a minimum order of £15. No potatoes boxes are the third most expensive item. By not including potatoes the bag becomes more expensive because it includes the more expensive items (root vegetables, alliums, leafy crops and seasonal crops). Base items are usually produced in high volumes with a degree of mechanisation and therefore their price is lower. Vegetable boxes are the cheapest type of box.

c. Other boxes

Only Riverford offers other boxes aside from vegetable boxes. These are:

- Recipe Boxes: include a recipe and the ingredients and quantities needed to cook such recipe. The customer can choose from simple, light, foodie, vegan, vegetarian, meat and prime cuts recipes.
- Vegetable and fruit boxes plus meat: combine meat and vegetables or meat, vegetables and fruit,
- Meat boxes: contain a range of meats including beef, chicken, pork and lamb
- Salad box: contains ingredients typical for a salad
- Juicing box: contains ingredients for juicing

d. Other products

Six enterprises include other products in their vegetable bags or boxes. Future Farms, Canalside, Green Isle Growers and Keveral offer a limited range of other products which includes bread, flowers, eggs and milk. Customers pre-order and cancel these items by contacting the enterprise and receive them every week with their vegetable bags. Instead, COFCO and Riverford offer a wide range of other products which can be purchased online once or regularly. COFCO offers 16 other product categories. These can be grouped in fruit and vegetable additions, seasonal items (e.g. Turkey or Easter eggs), bread, eggs, dry pulses, flour, cleaning products, beverages, and processed food. These items are delivered next day if purchased once or with the vegetable bag if the customer purchases one. Riverford focuses only on food products. These include meat, dairy, processed foods, drinks and seasonal items. The items are delivered within two days of purchase or with the vegetable bag if the customer purchases one. Growing Communities and Future Farms offer other products through other forms of retail such as farmers' market, urban farm shop or village shop. They were not

included here because this section focuses on the items that are included in the bags. In their case other items require different logistics.

The survey also gathered information about the types of products included in the bag. Of 50 respondents 33 (66%) include other products in their bag. The survey registered 38 other products. The three most common are eggs (32 respondents), bread (13 respondents), and dairy (9 respondents). The three most common combination of products are vegetables, fruit and eggs (13 respondents); vegetables, fruit eggs and bread (6 respondents); and vegetables, fruit, eggs, dairy, bread, meat/fish (4 respondents).

4.3.5 Customer ordering methods

The research found three methods customers use to order from case studies. All methods are advertised through the case studies' websites except for Exeter VegShare who only had a Facebook page.

a. By email

This method involves the customer contacting the box scheme by email. Details about the type of box to be ordered, payment methods and delivery times are discussed by email. This ordering method does not have an extra cost to the enterprise.

b. By online shopping platform

Online shopping platforms provide enterprises the service of ordering and payment. Case studies sign up to such platforms and customers place their orders through them. They allow customers to choose from a range of products. Online platforms have a cost; however, it is lower than hosting the ordering services on the enterprise's website. But if the enterprise does not fully use the platform the service is free. Exeter VegShare uses the Open Food Network

platform only to advertise their products and receive customers' orders. The payment facility is not used making the platform free and requiring customers to pay in person.

c. By website

In this method all ordering services are hosted by the case study's website. Two case studies use a box scheme management software that integrates the customer's ordering services with the enterprise's website, accounting, and customer database systems. These software systems are highly sophisticated and help the enterprise streamline its operations and provide better customer service. However, they are the most expensive method for customer ordering.

Table 4.8 shows the customer ordering methods employed by each of the case studies.

Table 4.8: Customer ordering methods

Case Study	Method
Future Farms	Online Platform
Canalside	Email
Growing Communities	Website
COFCO	Website
Exeter VegShare	Online Platform (but payment in person)
Riverford	Website
Green Isle Growers	Email
Keveral Community of Growers	Email

Source: Author

4.3.5.1 Subscription

The research found that all case studies except for Exeter VegShare offer customers a subscription service. Subscription is when 'users are charged a periodic – daily, monthly, annual- fee to subscribe to a service' (Rappa 2010). Subscription is a characteristic that differentiates box schemes and CSAs from other AFNs because it keeps a regular customer base and therefore a regular income. This is important because in that way box schemes and CSAs can guarantee regular purchases to their suppliers or their own production. Pretty (2000) argues that one of the benefits of CSAs is that they provide a secure income so farmers can plan, invest in inputs, machinery and concentrate on farming, rather than having

to retail as well. Moreover, subscription makes a more attractive market for suppliers because they can plan their crops according to customer numbers and receive regular orders of similar value and volume.

Some case studies showed concern that subscription is perceived as a contract. In the interviews, subscription is only mentioned by two case studies to clarify that the enterprise is not a subscription.

'We bill weekly or customers pay on a weekly basis so that there is no subscription, there is no tied-in to the service. You are on the scheme for as long as you want to be.' Representative from COFCO.

'Would rather than keeping people in a subscription it is better to have as many one-time subscriptions as possible...so there is no regularity or commitment.' Representative from Exeter VegShare.

Despite this concern, data shows that all case studies, except for VegShare, have cancellation policies albeit with different notice periods. Therefore, box schemes and CSAs are flexible so long as the customer meets the required cancellation notice. Table 4.9 lists the cancellation notice of each case study.

Payment frequencies are another element of subscription. Although Pretty (2000) found that CSA clients pay in advance, the research found no case studies implementing this practice. Instead, box schemes and CSAs require customers to pay monthly or weekly. Table 4.9 lists the payment frequencies required by the case studies.

Table 4.9 Cancellation notice periods and payment frequencies required by case studies

Case Study	Cancellation notice period	Payment frequency
Future Farms	Day before delivery	Monthly
Canalside	2 months before final delivery	Monthly
Growing Communities	Week before delivery	Monthly
COFCO	Day before delivery	Weekly
Exeter VegShare	Week before delivery	Weekly
Riverford	Day before delivery	Weekly
Green Isle Growers	Week before delivery	Monthly
Keval Community	Week before delivery	Weekly

Source: Author

4.3.5.2 No subscription

No subscription means that clients can purchase once without having to commit to a subscription. This service is provided by Exeter VegShare, COFCO and Riverford. As such COFCO and Riverford provide customers the choice of being regular customers, one-time customers or both because they can add other items to their regular boxes. Table 4.10 lists the case studies that offer subscription, no subscription and both.

Table 4.10 Subscription and non-subscription services of case studies

Case Study	Subscription	No subscription
Future Farms	√	
Canalside	√	
Growing Communities	√	
COFCO	√	√
Exeter VegShare		√
Riverford	√	√
Green Isle Growers	√	
Keveral Community	√	

Source: Author

4.4 Financial characteristics of case studies

Finances have been discussed in academic literature to evaluate the economic impact of AFNs. Research has exalted and questioned their economic impact. The argument of those that celebrate AFNs is that they have multiple impacts in local economies like employment generation and rural development. The counterargument is that AFNs do not benefit everyone equally and do not have multiple effects (Tregear 2011). Instead of discussing economic impact, this thesis analyses finances from within the enterprise. In other words, how do enterprises manage their finances from the perspective of financial viability. The section identifies three ways in which financial viability is practiced: Market, equilibrium and dependency.

4.4.1 Definition and measurement of financial viability

Financial viability is important because it ensures the continued existence of an enterprise (Fischer et al. 2013). Not achieving financial viability threatens the resilience of box schemes and CSAs and the potential economic impact they may want to have on their suppliers, employees and local economy (Leblanc et al. 2014). Moreover, financial viability is something all case studies aim for as evidenced in these quotes:

'We all want to see the veg bag scheme as financially self-sustainable... want to be autonomous and not depend on grants.' Representative from Exeter VegShare.

'When we started, we were absolutely idealistic; it was all about getting local food to local people and trying to reduce the impacts of the environmental ecological impacts of that. It still is, but it's had a little bit more of a recognition that you need to have a certain minimal amount of income for the people that are doing it. You can't do these things out of love and passion; you have got to be able to pay your bills a little bit as well.' Representative from Keveral Community.

'We also aim to be resilient in ourselves, seeking to be financially sustainable and as independent of external funding as possible.' Growing Communities mission statement.

The US National Food Hub Surveys and the Food Hub Benchmarking studies establish as a principle that a financially viable business is one that can cover its own costs. This principle is also used by Fischer et al. (2015) which studies the financial viability of food hubs. This research asked case studies what breaking even meant for them and their answer was the same: when the box scheme or CSA could cover its operational costs from the trading activities. To measure financial viability Fischer et al. (2015) used the business efficiency ratio (BER). This measures the ratio of total revenue to total costs. Revenue is the total amount of money earned by the enterprise and costs are the expenses that arise from the activity of the enterprise. As such, financial viability is related to revenue and costs. A BER ratio of 1.00 means that the business is breaking even, therefore a ratio below 1.00 means profit and over 1.00 means losses. BER was calculated for all case studies for all three years

of accounts except for Exeter VegShare which was calculated for one year. Table 4.11 shows the BER calculation of each case study for the three years.

Table 4.11: BER ratios of case studies

Case Study	Year 1	Year 2	Year 3	Average
Canalside	0.89	0.81	1.01	0.90
Exeter VegShare	0.90			0.90
Green Isle Growers	0.74	1.03	0.99	0.93
Riverford Sheffield	0.94	0.95	0.93	0.94
Keval Community of Growers	0.90	0.94	0.99	0.95
COFCO	0.97	0.98	0.99	0.98
Growing Communities	0.93	1.01	1.02	0.99
Future farms	1.00	1.02	0.99	1.01

Source: Author

This measure indicates all case studies on average are financially viable except for Future Farms. The average BER amongst the case studies was 0.95. Canalside and Exeter VegShare are the most viable case studies and Future Farms the least viable. However, as it will be shown later, financial viability does not exclude financial vulnerability.

4.4.2 Achieving financial viability

Although the BER table shows that most case studies are financially viable it does not explain *how* they achieve financial viability. Therefore, the BER measure does not go far enough in explaining *how* financial viability is achieved. It has been established that financial viability is the relationship between revenue and costs. So, to understand financial viability the research analysed the revenue and costs of box schemes and CSAs.

In general, box schemes and CSAs have two types of revenue and two types of costs which are derived from the activities they perform. Box schemes and CSAs' activities can be classified in manufacturing, merchandising and services. Manufacturing is when an enterprise buys raw materials to convert them into finished goods for sale; merchandising is when an enterprise buys and sells finished goods without altering them; finally, services is when an enterprise sells services (Drury 2015). In the case of box schemes and CSAs manufacturing

and/or merchandising are activities that generate *sales revenue*. In other words, the trading of manufactured goods or finished goods, which in this case would be produce grown at the farm or bought in, creates a revenue based on sales. Services are an activity that generates *other revenue*. Services are activities that benefit either the enterprise or the community involved. For example, consultancy or cooking lessons project for the local community. To perform these activities, enterprises use revenue that is not generated by the trading of produce. In terms of costs, manufacturing, merchandising and services also generate these. Thus, costs are divided into *operational costs* which are those incurred in manufacturing and/or merchandising, and *other costs*, which are those incurred in delivering a service. Therefore, box schemes and CSAs have sales revenue and other revenue, and operational costs and other costs.

To separate the different types of revenue and costs of case studies the research used the five-line income statement (5LIS). The 5LIS is a method to structure a profit and loss account (P&L). This format has been widely used in the US to understand the financial performance of food hubs (NGFN 2013, 2014, Pirro and Matteson 2017). Food hubs are like box schemes and CSAs in that they manufacture and/or merchandise produce and provide services. They also aim to trade sustainable food and develop local food systems. As such the 5LIS is an appropriate format to analyse the financial viability of box schemes and CSAs.

The 5LIS was applied to the P&Ls of the case studies to separate sales revenue, other revenue, operational costs and other costs. To avoid publishing sensitive financial information of each case study, financial figures were converted to percentages. Percentages were calculated assuming that sales revenue is 100% and all other costs and revenue are calculated as a percentage of sales. Table 4.12 compares the revenue and costs of manufacturing and/or merchandising activities and the revenue and costs of services.

In the manufacturing and/or merchandising activities columns the table shows that Exeter VegShare, Green Isle Growers and Future Farms' operational costs are higher than their sales revenue. Instead, Growing Communities, Riverford Sheffield, Canalside, COFCO and Keveral' s operational costs are lower than their sales revenue. The service activities columns show that Riverford Sheffield and Keveral do not have other revenue and therefore do not have other costs. Green Isle Growers, Future Farms, and COFCO have other revenue but do not have other costs. Finally, Exeter VegShare, Growing Communities, and Canalside have other revenue which exceeds other costs.

The figures used to calculate the BER were the addition of sales revenue and other revenue, and operational costs and other costs. By doing this the BER calculations show that all enterprises are financially viable except for Future Farms. However, table 4.12 shows that Exeter VegShare, Green Isle Growers and Future Farms' operational costs exceed their sales revenue. Thus, making manufacturing and/or merchandising activities financially unviable because their costs cannot be covered by the sales revenue. To be financially viable these enterprises use other income to cover the rest of the operational costs. This is possible because in all cases other costs do not exceed other revenue therefore allowing enterprises who cannot cover their operational costs to use other revenue to do so.

Table 4.12: Comparison of revenue and costs of case studies

Case study	Manufacturing and/or Merchandising activities		Services activities	
	Sales revenue	Operational costs	Other revenue	Other costs
Exeter VegShare	100%	168%	98%	9.6%
Green Isle Growers	100%	104.2%	11.7%	0%
Future Farms	100%	103.9%	3.5%	0%
Growing Communities	100%	99.9%	9.5%	8.7%
Riverford Sheffield	100%	99.1%	0%	0%
Canalside	100%	98.5%	11.7%	1.7%
COFCO	100%	97.8%	0.8%	0%
Keveral Community	100%	94.7%	0%	0%

Source: Author

Other income comes from different sources which can be divided in two types. One is other income generated by the enterprise by performing activities like events where money is earned, charging membership fees, earning bank interest, receiving National Insurance rebates, charging for consultancy services, organising and charging for tours and educational programs, selling company assets, and profit from manufacturing and/or merchandising activities. This type of other income is independent because once it is earned the enterprise can spend it as they wish. The other type is income received to implement a project or a plan. For example, grants, donations or bank loans. This type of other income is dependent because once it is in the hands of the case study it must be spent on the project or plan established. Table 4.13 lists the percentages of independent and dependent income of the case studies as a percentage of sales revenue.

Table 4.13: Percentage of independent and dependent income of case studies

Case Study	Independent income	Dependent income	Total other revenue
Exeter VegShare	0.96%	97%	98%
Green Isle Growers	1.2%	10.5%	11.7%
Future Farms	0.09%	3.44%	3.5%
Growing Communities	1.2%	8.3%	9.5%
Canalside	9.6%	2.1%	11.7%
COFCO	0.8%	0%	0.8%
Riverford Sheffield	0%	0%	0%
Keval Community	0%	0%	0%

Source: Author

Table 4.13 shows that Exeter VegShare, Green Isle Growers, Future Farms and Growing Communities have more dependent income than independent income. Canalside and COFCO have more independent income than dependent and Riverford Sheffield and Keval Community have neither.

4.4.3 Approaches to financial viability

The results from tables 4.12 and 4.13 show that case studies approach financial viability in three different ways. The first is a market approach. Table 4.12 showed that COFCO,

Riverford Sheffield and Keveral Community cover their operational costs with their sales revenue. Table 4.13 showed that none have dependent income. This means that at the time of data collection these enterprises do not perform any service activities. They dedicate themselves only to managing the box scheme. Although COFCO shows independent other income, which was classified in the services section, this was from selling an asset and therefore not related to a service activity. These results show that their approach to achieve financial viability is to ensure their operational costs are covered by their sales revenue and not to perform any service activities.

The second is an equilibrium approach. Table 4.12 shows that Canalside and Growing Communities' manufacturing and merchandising activities are financially viable. They just about manage this with Growing Communities' operational costs at 99.9% of sales revenue and Canalside at 98.5%. Table 4.13 shows that they also deliver services which they fund with dependent and independent income. This includes events, educational services, food growing activities and consultancy. Both have sought funding to develop bigger projects either through grants or donations. Canalside recently bought the land it has been operating from thanks to a community share scheme where the community provided funds to buy the land. Growing Communities has run projects like the Start-up Program, which helped start seven box schemes in England and Dagenham Farm which grows food for the box scheme and provided a community outreach program for Dagenham residents. Both these programs were financed with grant funding. As such, both enterprises approach financial viability by striking a financial equilibrium. They ensure that manufacturing and merchandising activities are viable from the revenue they generate and to perform services they either raise or apply for funds.

Finally, the third approach is dependency. Table 4.12 shows that operational costs exceed sales revenue in the case of Exeter VegShare, Green Isle Growers and Future Farms. As such,

their manufacturing and/or merchandising is not financially viable. Table 4.13 show that these enterprises also have a mix of independent and dependent income although dependent income is higher suggesting that they also perform services. In the case of Exeter VegShare dependent income has been granted from the National Students Union (NUS) to start the enterprise and by Exeter University's Student Guild to pay for staff salaries, for Green Isle Growers it is a bank loan, and for Future Farms dependent income is capital grants to develop infrastructure. But because operational costs are not covered by sales revenue, the approach of these enterprises is to depend on other revenue to cover them.

In the three cases other revenue is mostly dependent which means they are vulnerable because once dependent income ceases they have no way to cover their operational costs. This is also found in research on food hubs in the US (NGFN 2014, Pirro and Matteson 2017, Fischer et al. 2015a). Despite the BER measure (financial viability) this analysis shows that Exeter VegShare is the most vulnerable of the case studies. Table 4.12 shows that this case study has the highest operational costs, exceeding sales revenue by 68%. Most of the income used to cover this 68% comes from the students' guild, therefore without the support of the guild, Exeter VegShare would not be able to operate in its current form.

Green Isle Growers and Future Farms are in a much better financial position. In both cases the three-year average show that their operations are not being covered by their sales revenue and the reason why they are dependent. This is due to poor performance in the first and second year. But, the third year shows a small profit in both cases which means they were able to cover their operational costs. As such, these enterprises are moving from a dependency to an equilibrium approach.

The evidence has shown that although the BER table shows most of the case studies are financially viable, they approach financial viability in different ways. One approach is to only

focus on the market and rely on sales revenue to achieve financial viability. Another is to generate revenue from sales, grants and services to strike a financial equilibrium and perform all activities. The last approach is to rely on grant funding to cover operational costs being the riskiest of all. As such, these latter enterprises are financially viable but also financially vulnerable.

4.5 Summary

This chapter has set out the operational and financial characteristics of box schemes and CSAs. The main argument is that there is a great diversity in the way box schemes and CSAs operate and manage their finances. The chapter evidences this diversity through three main sections. First it opens with the inherent characteristics of box schemes and CSAs. Then, it moved to describe operational characteristics. Unlike those found in The US National Food Hub Surveys and the Food Hub Benchmarking studies, this chapter focuses on operational characteristics that add value to fresh produce. Five were identified: sourcing, packing, distribution, products and customer ordering methods. They demonstrated how the case studies differ and coincide in their practices. The chapter moves forward the understanding of operational characteristics by introducing packing, distribution and customer ordering methods which in the case of box schemes and CSAs set out the degree at which the customer interacts with the case study. Finally, the chapter discusses financial characteristics. First, by looking at the approaches to financial viability also using the VBSC as a guide and the 5LIS method to analyse financial data. However, differently from the results presented in The US National Food Hub Surveys and the Food Hub Benchmarking studies, this chapter proposes a typology to approach financial viability: market, equilibrium and dependency. It illustrates that the dependency approach, whilst leading to financial viability, can also lead to vulnerability. This was possible because of the case study method used in this research. Unlike the US reports which deal with a larger sample, this research was able to investigate at

greater depth QUAN data to compare case studies. As such the chapter introduces a novel way to analyse financial viability.

The chapter contributes to the overall thesis by setting out the operational and financial characteristics that will be used in the following two chapters to demonstrate how and to what extent sustainability values are practiced by box schemes and CSAs. A diagram of these characteristics on how they relate to the following chapters can be found in appendix 6 (fold-out map). The next chapter will use operational characteristics to identify the principle value and financial characteristics to determine the way enterprises behave towards earning money. By analysing how these values relate to each other, Chapter 5 will discuss how and to what extent principle value and commercial behaviour are practiced.



Chapter 5

Principle Value and Commercial Behaviour

5.1 Introduction

The aim of this chapter is to identify the values practiced by box schemes and CSAs. This is based on the operational and financial characteristics established in Chapter 4. Through the conceptual tool of competitive strategy, the chapter identifies two values: ‘Principle value’ and ‘commercial behaviour’. By doing so the chapter makes three arguments. First, that the principle value is the most important and the one case studies achieve the most as their operations are designed to accomplish it. Second, that commercial behaviour is critical for the economic sustainability of the enterprise. Third, the relationship between the principle value and commercial behaviour is that the latter impacts on the extent to which the former is practiced but does not shape it. Therefore, this chapter contributes to this thesis by identifying two critical values and how and to what extent these values are practiced by the case studies.

This chapter introduces the first part of a novel methodology to analyse how sustainable values are practiced by AFNs using operational and financial data and the conceptual tool of competitive strategy. This first part has three steps. First, to identify the principle value and to analyse how operational characteristics align to each other to accomplish it. Next, the methodology identifies how case studies balance values and commercial behaviour and how

this balance aligns with their approach to financial viability. The third step is to analyse the relationship between the principle value and commercial activity.

To develop these arguments the chapter is divided in five sections. The first defines competitive strategy and explains its elements. The following section discusses how case studies source their produce. It compares the sourcing characteristics from Chapter 4 to identify three enterprise types: Community, grower and trade. By doing so this section determines the principle value of each enterprise type. Section three analyses customer needs and how case studies respond to them. It compares the rest of the operational characteristics from Chapter 4 and organises them into five customer needs. These are scored and classified into four customer retention methods. The fourth section is the most complex as it brings together principle value and commercial behaviour. It introduces and establishes the importance of commercial behaviour. Then, proposes the concept of commercial activity composed of business size (operational characteristics) and commercial behaviour (financial characteristics). Finally, it identifies three forms of commercial activity: commercially shy, driven and not driven nor shy. The final section analyses the relationship between principle value and operational characteristics and offers further evidence of this relationship.

Appendix 6 (fold-out map) shows how principle value and commercial behaviour are related to the typologies developed in this chapter and to the operational and financial characteristics of Chapter 4.

5.2 Porter's competitive strategy

Porter (1996) proposes the concept of 'competitive strategy' to direct business studies away from the analysis of operational efficiency and focus research on what business aims to do and how they can achieve it. Operational efficiency aims to make businesses more productive and produce better quality products through their operations. Instead, competitive strategy

analyses how strategic and operational factors come together to differentiate a business from its competitors. Porter (1996) argues that the analysis of both are essential in the success of an enterprise.

Strategy is about ‘choosing to perform activities differently or perform different activities than rivals’ (Porter 1996:64). It could be said that all box schemes and CSAs share a common competitive strategy because they differentiate from other AFNs, like farmers’ markets or farm shops, and from conventional food systems, like supermarkets. However, as shown in Chapter 4, although all box schemes and CSAs aggregate and distribute produce, the way in which they perform these activities differs from case to case. This difference creates different competitive strategies implemented by each case study which in turn impact their level of commercial activity.

Much has been written about business strategy after Porter’s work (Campbell-Hunt 2000). Here three elements will be used. First, *strategic positioning* defined as the aim of the enterprise. For example Ikea’s strategic positioning is ‘to target young furniture buyers who want style at a low cost’ (Porter 1996:65). Porter proposes that strategic positions are either based on products or customers. These are not mutually exclusive and often overlap as shown in Ikea’s example (inexpensive and stylish products for young customers). The second element is *supply chain strategy* which determines the activities of the supply chain or how a product is procured, packed, distributed and purchased by customers (Chopra and Meindl 2013). Finally, the third element is *strategic fit* which is the alignment between strategic positioning and supply chain strategy. In other words, the activities of the enterprise should be the operationalisation of the aim of the enterprise and the aim of the enterprise should determine the activities of the supply chain.

The conceptual tool of competitive strategy will be applied to operational and financial characteristics to identify the aim of the enterprise and analyse how the characteristics of the enterprise align themselves to this aim. Alignment or strategic fit is crucial to understand box schemes and CSAs because it helps to analyse how the characteristics found in Chapter 4 align, inform and complement each other.

5.3 Enterprise types

This section consolidates the sourcing characteristics of box schemes and CSAs discussed in Chapter 4. The aim of this section is to identify the principle value from the sourcing characteristics using competitive strategy, or the alignment between aim and activities of an enterprise. The section shows that enterprise types are composed of sourcing methods, supply chain structure and principle value. The discussion of these elements will ignore Exeter VegShare which will be addressed in the last part of this section.

5.3.1 Sourcing methods - How?

Chapter 4 presented four sourcing methods which are the combination of geographical origin and procurement. They describe how produce is sourced. These are *own production*, practiced by Future Farms and Canalside; *grower plus wholesaler*, practiced by Green Isle Growers and Keveral Community; *tiered sourcing*, practiced by Growing Communities and COFCO; and *volume sourcing* practiced by Riverford.

5.3.2 Supply chain structures - Who?

A supply chain is defined as ‘the parties involved, directly or indirectly, in fulfilling a customer request’ (Chopra and Meindl 2013:13). The parties involved are the actors who play a role in each stage of the supply chain. As such, a supply chain establishes who takes part in a supply chain (actor) and the role they play. The research has identified four roles in the case studies’ supply chains:

Manufacturing: The role of producing food. This research focuses on the production of vegetables. Therefore, production means the sowing, growing and harvesting of vegetables. However, case studies also sell other products such as bread, meat or cleaning products which require other production methods which will not be discussed here.

Wholesale: The role of aggregating produce from own production, growers and/or other wholesalers and distributing to non-end customer clients.

Merchandising: The role of retailing food products. It includes the activities of designing the vegetable bag (the art of the bag), sourcing of produce (grow or buy in), packing, distribution, customer recruitment, customer service and marketing.

Consumption: The role of purchasing the vegetable bag.

Literature has characterised AFNs as food systems that assign a more active role to both producers and consumers (Forssell and Lankoski 2014). This was identified in this research by looking at who performs the roles of the supply chains. Whilst some supply chain structures require actors to perform more roles than they have been traditionally assigned, others keep the roles traditionally assigned to all the actors. The research identified three types of supply chain structures.

a. Community supply chain

Enterprise and customers are the actors of this supply chain. Here the role of the enterprise is to manufacture and merchandise. The consumer, whose role is to consume also manufactures. Future Farms and Canalside have a community supply chain.

b. Growers' supply chain

This supply chain has four actors: member growers, local growers (in the case of Keveral), wholesalers (including grower/wholesaler) and customers. The latter three actors keep their

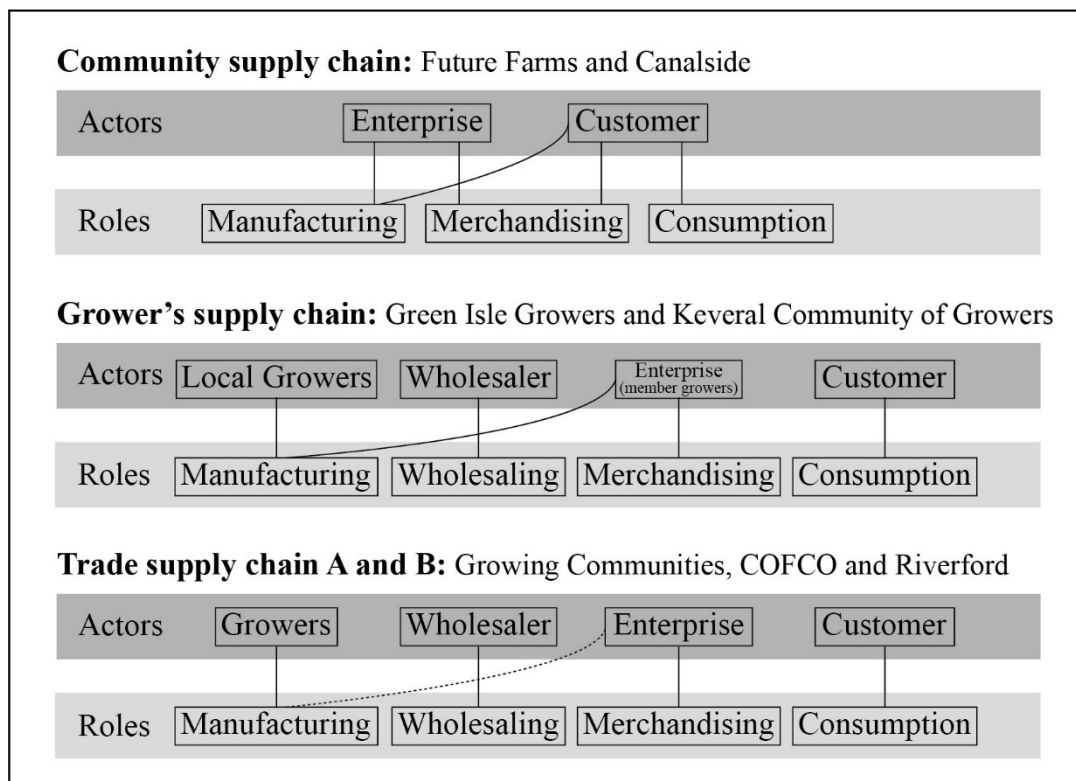
traditional roles and member growers perform two roles, manufacturing and merchandising.

Green Isle Growers and Keveral Community of Growers practice a growers' supply chain.

c. Trade supply chain

This supply chain has four actors: growers, wholesalers (including grower/wholesaler), enterprise and customers. The roles performed by actors split this supply chain structure in two. In Type A the enterprise shares the role of merchandising and manufacturing and the rest of the actors perform their traditional roles. Growing Communities and Riverford practice this type. It is worth noting that although these enterprises share the role of manufacturing and merchandising they are big enough to have staff teams only dedicated to manufacturing and others only dedicated to merchandising. This is different from community supply chains where the same staff share both roles. In trade supply chains Type B actors

Figure 5.1: Roles shared by actors in supply chains



Source: Author

share no roles. Growers manufacture, wholesalers wholesale, enterprises merchandise and customers consume. This kind is practiced by COFCO. The trade supply chain has been divided because although enterprises on type A and B perform different roles, both types share the same actors and sourcing methods. Figure 5.1 shows the roles actors share in each of the supply chain structure. The trade supply chain has a dotted line between enterprise and manufacturing to represent Type A where the enterprise shares the role of manufacturing and merchandising.

5.3.3 Principle Values - What?

Sourcing methods and supply chain structures determine what the enterprise is trying to achieve. Values can be defined as ‘one’s judgement of what is important in life’ (Oxford University 2019). A wide range of social, economic and environmental values were found in the data that are held as important to case studies. However, the approach here is to identify values from the practice. In other words, these values come from analysing the operational and financial characteristics rather than analysing what case studies say are their values. The research identified three main principle values within the case studies: Community building, income security and marketing sustainable food.

a. Community building

To cultivate a community that produces and consumes food. This value was identified in Future Farms and Canalside which source from their own production and have a community supply chain. In terms of actors and the roles they perform, both enterprises encourage their customers to grow food. In this way these enterprises create strong relationships between producers and consumers. Future Farms exists to create a community within the village. Residents of Martin can get involved in feeding animals, growing vegetables or running the

village shop and by doing so they become part of the community as exemplified in the following quote:

'It's definitely true, through getting involved with the shop or the farm, they're getting involved with the whole social life, which revolves around it.' Representative from Future Farms.

For Canalside, there is no sustainable food system without the active participation of the customer community. They take part in the setting up, development and operations of the CSA. This aligns with the UK CSA Network definition of a CSA which is 'a partnership between farmers and consumers in which the responsibilities, risks and rewards of farming are shared' (CSA Network 2015). The following quote evidences the importance for

Canalside of community in supporting the enterprise:

'It's not just you – there's a group. You're all pitching in to make it work. I don't know what (head grower) told you, but I would hope he would say he feels a bit more supported and appreciated than most growers do.' Representative from Canalside

Prioritising the cultivation of a community that produces and consumes food explains why these enterprises choose to source their produce from their own production. It provides a physical space in which customers can actively engage in the production of food. It also provides the infrastructure required to form a partnership and close relationships between growers and consumers. For example, when there are needs for extra labour, the farm can always count on CSA members, as explained by Canalside's head grower:

'Our labour equation is different... is not as terrifying critical for us as it might be because we got the support of the community and it enables us the luxury of being able to pay attention to people (growers) enjoying their work more than it was say at my last farm'

b. Income security

To provide member growers with a fair and secure income. This principle value was identified in enterprises implementing a grower plus wholesaler sourcing strategy and a growers' supply chain which are Green Isle Growers and Keveral Community of Growers. These enterprises exist to economically benefit member growers. But because member

growers cannot supply enough produce for the bags or the variety of produce needed, they also buy from a wholesaler. They involve growers and wholesalers to offer an attractive vegetable bag for customers, but prioritising growers as explained in the following quote:

'It's ok to pay people who are actively supporting us to run the business the best possible price for their products, but it's different to pay the same price to somebody for a wholesale product that they're not really benefiting from us existing in that way, in fact they're probably competition to us as well. So, us delivering boxes for Riverford cheaper than they would do it doesn't really work, that's not our business model.' Representative from Keveral Community.

Providing member growers with a fair and secure income is done through collaboration. Both enterprises were started by groups of growers aiming to manufacture and merchandise produce. In both cases growers burned out because running a box scheme and growing produce required much more time and dedication than they had available. But they wanted to continue trading and keeping the principal of the grower having control over the merchandising. They concluded that the best way to keep this principle was to create a box scheme where growers collaborate in the merchandising.

c. Marketing sustainable food

A third principle value identified amongst the case studies is to market the most amount of sustainable food. This principle was identified in enterprises with tiered and volume sourcing methods, and trade supply chains. As such Growing Communities, COFCO and Riverford practice this value. These enterprises want to move from restricted and small markets into accessible and bigger ones to transition to sustainable food systems. As such they serve as many customers as possible. To achieve this, they need large quantities of produce, thus explaining why they choose to source as local as possible and volume sourcing. These sourcing techniques give them the flexibility to secure the volume of produce required.

Securing produce has been achieved by working with a greater number of farmers. This means that enterprises with this principle value keep more farmers in business as identified by a supplier:

'I think this is Julie's (Growing Communities Director) angle, a lot of the time, she likes to keep people in production and that is great' Growing Communities supplier.

Regularly purchasing substantial quantities of produce allows farmers to have a secure market for some of their production. For >14.1ha farmers this means better prices than those offered by supermarkets. It is paradoxical that in their mission statements neither Growing Communities, COFCO nor Riverford clearly state the aim of keeping organic farmers in business. Arguably this is one of their greater achievements. These enterprises have contributed to the development and maintenance of the organic food production industry in the UK at all scales. This achievement has required years of work not only in building a customer base but also working in partnership with farmers to secure supplies. As such this message should be publicized clearly.

Sourcing methods and supply chain structures, which are elements typical of supply chain strategy, determine the value each case study prioritises and practices which is the strategic positioning. This evidences strategic fit between the aims and the activities of the enterprise. As such, a sourcing method, supply chain structure and principle value correspond and complement each other. For example, the sourcing method of own production provides a space and activity for customers and growers to be involved in the supply chain. As such, the priority is on a community of growers and customers that share the responsibilities of food production. Therefore, if an enterprise chooses a tiered sourcing method its principle value could not be community building because there would not be the space to build such community. Sourcing methods set out how produce is sourced, supply chain structures determine who takes part in the supply chain and their role, and the principle value

determines the purpose of the enterprise. Thus, sourcing methods and supply chain structures operationalise the principle value.

5.3.4 Enterprise types

The research identified three enterprise types based on the sourcing methods, supply chain structures and principle values.

a. Community enterprise

Community enterprise's sourcing strategy is from own production, they have a community supply chain and their principle value is community building. These elements complement each other. Cultivating a community that produces and consumes food is possible through a space where they can get together to grow food. This is provided by the sourcing strategy. Thus, own production is not only a way to source food but also a place to grow food. Since the principle value is to cultivate a community that produces and consumes food it is therefore the clients and employees of the CSA who grow food. This explains the supply chain structure of the enterprise. Canalside and Future Farms are community enterprises.

b. Grower enterprise

For these enterprises grower plus wholesaler is the sourcing strategy, grower's their supply chain and income security their principle value. These elements are consequent with each other. To achieve a fair and secure income for member growers these enterprises need to source from them. But because member growers do not produce enough or the required variety of produce, they also buy from wholesale. As such this also informs the supply chain actors and their roles. Green Isle Growers and Keveral Community of Growers are grower enterprises.

c. Trade enterprise

Trading enterprises have a tiered and volume sourcing strategy, a trade supply chain and trading sustainable food is their principle value. These elements inform each other. Marketing the most amount of sustainable food is achieved by securing produce from different types of growers and engaging actors who are specialized in one role. Enterprises within the trade category are Growing Communities, COFCO and Riverford.

Figure 5.2 brings together the enterprise types. It shows how they are composed in terms of *how* they source, *who* they source from and *what* do they aim to achieve with the sourcing.

Figure 5.2: Enterprise types and their characteristics

Future Farms	<u>Community enterprise</u> Sourcing method: Own production Supply chain structure: Community supply chain Principle value: Community building
Canalside	
Green Isle	<u>Grower enterprise</u> Sourcing method: Grower + Wholesaler Supply chain structure: Grower's supply chain Principle value: Income security
Keval Community	
Exeter	<u>Trade enterprise</u> Sourcing method: Tiered and volume Supply chain structure: Trade supply chain A and B Principle value: Marketing sustainable food
Growing Communities	
COFCO	
Riverford Sheffield	

Source: Author

5.3.5 Exeter VegShare

The research has found it challenging to analyse Exeter VegShare. For this reason, the case study was excluded from the previous section. Enterprise types have been established based on common sourcing methods, supply chain structures and principle values. As it was demonstrated these characteristics align with each other and are the operationalization of a principle value. This alignment was reinforced by the interviews with managers where their reflections were consequential with the operational and financial characteristics. In the case

of Exeter although the operations show one type of enterprise, the interviews with the manager portray a different one. Data from the operations and plans to implement a recently awarded grant suggest that the case study was aiming to become a trade enterprise. The enterprise sources from one supplier although this could be the beginning of a tiered sourcing method whilst the enterprise built its customer base. Furthermore, through the grant, the case study was intending to become a hybrid enterprise by starting food production at the university campus. In terms of supply chain structure, Exeter VegShare implements a trade supply chain B, where there is no sharing of roles. Its supplier, Shillingford Organics, is dedicated to manufacturing, VegShare to merchandising and customers to consumption. However, with the implementation of the grant, Exeter VegShare's supply chain would have become trade type A because it would have been manufacturing and merchandising. Finally, operations at the time of the data collection suggest its principle value is marketing sustainable produce. The enterprise aimed to grow its customer base through the NUS grant and desired to support Shillingford Organics as evidenced in the following quote:

'It's very important that we'd also allow the farm to grow. That Shillingford could feel the impact of our box scheme better and dedicate more of their land to increase growth. So, if the box scheme is growing and we are growing hand-in-hand, everybody wins.' Representative of Exeter VegShare.

Having evidenced from its characteristics that Exeter VegShare is a trade enterprise, the data from the manager interview does not align with this conclusion. Trade enterprise's principle value is to market the most amount of sustainable food. But interviews demonstrate that there is great concern to increase food access amongst people in low incomes. Food access is related to food security which is when people 'at all times, have physical, economic and social access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life' (Richers 2002:92 in Dowler and O'Connor 2012). According to Exeter VegShare, residents of Exeter are food insecure because they lack food

access. Therefore, they think their role is to increase food access by offering an affordable vegetable bag. This is described in the following quote:

'We want to bridge the gap between honest ethically produced food with a general population but starting from the ones who actually have the lowest income. That's why we try to offer the cheapest price possible.' Representative of Exeter VegShare.

The research did not find evidence of how they are accomplishing this principle value. In the quote Exeter VegShare mentions the general population and those with the lowest income.

But as a university-based box scheme, its customers are students and staff, not the general population of Exeter. It could be said that some students in the university are within the lowest income. Indeed, Brooks (2017) in a newspaper article highlights the problem of university students' poverty in the UK. Many students live on maintenance loans which keeps them under the poverty line. However, OFNS (2015) found that the characteristics of those in persistent poverty are single parents, single adult households, women and retired people, not students. Thus, although university students are not in persistent poverty, some of them may be. But the research did not find evidence of specific efforts from the box scheme to reach students with low incomes. As such, if the principle value of Exeter VegShare is food access for low income populations the research was not able to find evidence in their operational practices that these are the customers they supply.

When asked about the development of the enterprise for the future the manager proposed a sourcing method different from the one already established. This sourcing strategy would be based on a community of home growers that would come together to exchange vegetables between each other therefore avoiding the use of money. This is described by the manager in the following quote:

'Long-term vision would be that we wouldn't actually charge anything for a veg box if there would be sufficient coordination between home growers and allotments etc., we could allow people to bring in their produce as a community of growers.' Representative of Exeter VegShare.

The supply chain structure would also change involving home growers who would also self-organize to coordinate production and exchanges. As such they would be sharing the roles of manufacturing and merchandising. In this way people in low incomes would be able to grow their own produce and access it because they would not use money.

The difficulty in classifying Exeter VegShare is that the data presents different types of enterprises. Its current operations evidence a trade enterprise, but the values expressed by the manager evidence an organisational focus on food access and avoiding the use of money. As such, the research will classify Exeter VegShare as a trade enterprise even though the analysis does not fully place it as such. The difficulty may be due to its short time in business. By the time of data collection, the enterprise had only been operating for a year. This suggests that the enterprise was still finding its principle value and its role within the local food sector in Exeter.

The misalignment between sourcing characteristics and the manager's perceived values show that not all case studies have a clear alignment. This evidences that competitive strategy assumes alignment. The misalignment also demonstrates the importance of alignment, it allows the enterprise to build on what has already been established. Therefore, it is important that enterprises question themselves what it is the main aim that determines the operation? because as it has been shown here, not one operation can fulfil different aims.

This section has evidenced how sourcing characteristics determine the principle value of the enterprise. Sourcing methods, supply chain structures and principle values align with each other to create a competitive strategy. However, this is not true for all cases and the section shows how Exeter VegShare does not achieve strategic fit. The following section analyses the rest of the operational characteristics identified in Chapter 4 to show how these respond to customer's needs.

5.4 Customer retention methods

The conceptual framework evidenced the hybridity in customer demand. The way AFN costumers consume food is not only influenced by their motivations, which reflect sustainability values, but also by their needs, in other words, how it fits with their routines, lifestyle and priorities. As such, the needs of AFN customers are varied and therefore enterprises such as box schemes and CSAs respond to them in different ways. This section discusses how case studies respond to different customer's needs by drawing from the operational characteristics of packing, distribution, products, and customer ordering methods and partially from sourcing characteristics. This analysis results in customer retention methods which are a spectrum of methods case studies implement to attract and retain customers.

To arrive at customer retention methods, this section will measure the extent to which case studies respond to customer needs taking as a reference the supermarket experience. For wealthy market economies, especially in the US and Europe, the supermarket experience is characterised by the out-of-town hypermarket, accessible by car, with long opening hours, free parking, with a wide variety of products at low prices and high quality, where all consumer choices and needs can be fulfilled. But this experience is problematic because it is modelled to support a move to service-based, post-industrial economy where people are increasingly expected to act individually. Convenience, something valued in supermarkets, is subjective because it is a function of an individual's behaviours, priorities and assumptions. As such, convenience is modelled by supermarkets to meet their preferred socio-economic requirements (Kneafsey et al. 2008a). It is acknowledged that using the supermarket experience as a point of reference is problematic due to its focus on service-base, post-industrial economy. However, since this research is UK based and most customers in the UK have been using the supermarket system for about 60 years (Galt et al. 2018), this research

uses the supermarket experience as a reference baseline. Therefore, the section assumes the highest scores to practices close to the supermarket experience.

5.4.1 Convenience

Convenience is valued by UK box scheme customers (Seyfang 2008, Brown et al. 2009, Hashem et al. 2017). Inconvenience in picking up or receiving a vegetable bag was cited by Galt et al. (2019) as a reason for customers to leave CSAs in the US. The following quotes evidence that some case studies believe it is their role to provide a convenient shopping experience

'I think as a business and industry we're always going to be needing to do a little bit more than hey here's a box of veg... people's lives are busy.' Representative from Riverford Sheffield.

'We take the attitude here that if somebody wants to buy local organic produce, we don't want there to be anything in our offering that is a barrier to them doing that.' Representative from COFCO.

It was identified that box schemes and CSAs exercise different levels of customer convenience through the practices they implement in packing, distribution, products, customer ordering methods and subscription. Chapter 4 found two packing practices: Staff packing and customer packing with the former being more convenient. In terms of delivery there are four practices: Home delivery, pick up points, headquarters and pick up points plus headquarters. Home delivery is the most convenient because customers do not have to travel. Products are also connected to convenience. Case studies offer other products aside from vegetable boxes. There are two practices to access these products. One is a narrow range offer which must be pre-ordered and delivered with the vegetable bag. The other offers more choice, must be ordered online and delivered maximum two days after purchase therefore making it more convenient because of the range, online payment, no need for subscription and fast delivery time. Customer ordering is practiced in three ways: By email, by online platform and by website. The most convenient is by website where the customer can

subscribe and pay anytime from anywhere. In terms of subscription, convenience is relative. Convenience is about saving time and effort. It could be argued that having a subscription is more convenient because the customer does not have to spend time and effort purchasing food, it just arrives every week. Equally it can be argued that it is more convenient for a customer that does not want to receive a bag of vegetables every week to be able to buy it online when the customer wishes to do so. But, if a customer does not have a smartphone, computer or limited access to the internet this latter option is not convenient. The UK is predicted to become the biggest market for online grocery shopping after China. But still only 39% of customers purchase groceries online once or twice a month (Statista Research Department 2019). Due to the relativity of convenience, enterprises that offer both subscription and no subscription are the most convenient. Three types of cancellation notice periods were found, the most convenient is a day before delivery, followed by a week before delivery and finally months before final delivery (as shown in table 4.9 In Chapter 4).

Table 5.1: Convenience scores per practice

Operational Characteristic	Practice	Score
Packing	Customers packing	1
	Staff packing	2
Distribution	Pick up*	1
	Home delivery	2
Other products	No other products available	0
	Narrow range of products available by pre-order	1
	Wide range of products available through an online shop	2
Customer ordering method	Email	1
	Online platform	2
	Website	3
Subscription	Subscription	1
	No subscription	1
	Subscription and no subscription	2
Cancellation notice periods	Months before final delivery	1
	Week before delivery	2
	Day before delivery	3

Source: Author

*Although there are four distribution practices, they have been narrowed to either pick up or home delivery.

A level of convenience has been calculated based on the scores assigned to packing, distribution, products and customer ordering method implemented. Table 5.1 shows the scores assigned to each practice. A low score has been assigned to the less convenient practice and a higher score to the most convenient practice. For example, in the operational characteristic of packing, customers packing is scored lower than staff packing. As such the latter receives a higher score. Given the scores allocated to each practice the level of convenience was calculated for each case study as shown in table 5.2.

Table 5.2: Convenience scores per case study

Case Study	Packing	Distribution	Other Products	Customer ordering method	Subscription	Cancellation notice periods	Total convenience score
Riverford	2	2	2	3	2	3	14
COFCO	2	2	2	3	2	3	14
Future Farms	2	2	1	2	1	3	11
Growing Communities	2	1	0	3	1	2	9
Keval Community Growers	2	2	1	1	1	2	9
Green Isle Growers	2	1	1	1	1	2	8
Exeter VegShare	2	1	0	1*	1	2	7
Canalside	1	1	1	1	1	1	6

Source: Author

*Exeter VegShare was assigned 1 in customer ordering method because although the enterprise uses an online platform, customers must make payments in person.

5.4.2 Choice

Lack of choice was identified in the literature as a disadvantage of box schemes in the UK (Seyfang 2008, Brown et al. 2009). Literature on US CSA customers also concludes that customer retention is compromised because of the lack of choice in the vegetable bag (Galt et al. 2018). However, some studies have found that customers enjoy lack of choice because they associate it with changes in their diet, seasonality and empathy with farmers (Zepeda et al. 2013). This research found similar positions from case studies. Whilst some case studies believe they should offer choice, others believe in giving no choice as evidenced by these quotes:

'We believe our members should be able to decide how much control they want over what goes in their veg box' Mission Statement COFCO

'They don't get a choice, customers, not like Abel & Cole, where you can say well I want cabbage, lettuce or whatever this week. They get what they get.' Representative Green Isle Growers.

Table 5.3 Choice levels per case study

Case Study	Number of bags offered	Score number of bags	Box customisation	Other types of boxes	Other products	Total
Riverford	23	3	1	1	2	7
COFCO	26	3	1		2	6
Keval Community of Growers	8	2			1	3
Growing Communities	10	2				2
Canalside	3	1			1	2
Green Isle Growers	2	1			1	2
Future Farms	1	1			1	2
Exeter VegShare	1	1				1

Source: Author

Choice was identified in the products case studies offer. The above quotes are examples of box customisation. Box customisation is an element of choice but so is the range of products a box scheme or CSA offers. This is because the bigger the range the more choice customers have. Range of products was identified in the types and sizes of vegetable boxes the enterprise offers. The research found case studies offer an average of 9.2 different boxes (size and type) which ranges from schemes that offer 1 box to 26 different boxes (Table 4.6).

Range of products was also identified in enterprises that offer boxes that do not include vegetables like meat boxes and in enterprises that offer other products like bread, flowers, eggs and milk.

A level of choice has been calculated depending on the number of fresh produce boxes the enterprise offers, box customisation, other types of boxes, and other products. Scores were given in each of these categories as shown in table 5.3.

5.4.3 Variety

Whilst some customers enjoy eating local and seasonal food others still want to eat out of season produce (Brown et al. 2009, Hashem et al. 2017, Galt et al. 2018). Variety was identified in the sourcing practices box schemes and CSAs implement through the concept of local and seasonal vs variety as explained in Chapter 4. Enterprises choose to source only local and seasonal produce which means variety is limited (*local and seasonal*). Or, enterprises choose to source variety which is produce from the UK and beyond but giving priority to local and seasonal, this allows for more variety (*variety*). Galt et al. (2019) proposes variety is part of choice. Whilst this is true, here it has been separated because all case studies either offer local and seasonal produce or variety, but do not allow customers to choose between them, except for those that offer a full customised bag or a UK bag only like Riverford. Table 5.4 lists the case studies that choose to source local and seasonal produce and variety.

Table 5.4: Local and seasonal vs variety practices of case studies

Case Study	Local and Seasonal	Variety
Canalside	√	
Green Isle Growers	√	
Future Farms	√	
Exeter VegShare	√	
Riverford		√
COFCO		√
Keveral Community of Growers		√
Growing Communities		√

Source: Author

Enterprises that offer variety believe that it is necessary to keep customers. This means that local and seasonal produce and produce from beyond (seasonal to its place of origin) depend on each other to create a product that keeps customers signed up to the enterprise. In other words, both depend on each other to be successfully retailed. This belief is captured in the following quotes:

'I suppose one of the reasons it (Riverford) has grown is because we try and do things from a regional basis, but we also make sure that customers are receiving... good variety of veg. If they weren't getting that then they would be back to the supermarkets.' Representative Riverford Sheffield.

'Our vision and our trading systems prioritise the local but work out to the global – enabling growers in urban and peri-urban areas, rural farmers, larger farms, wholesalers and imports to exist in harmony and building a food system that is collaborative, rather than competitive' Growing Communities mission statement.

As the role of wholesalers is to provide variety and fill in the gaps during the hungry gap,

they very much believe that box schemes and CSAs should trade all year round and

customers should have variety in their bags, as these quotes evidence:

'We have very definitive growing seasons in the UK, and then even regionally within the UK, and if you don't fill in the gaps then you lose all the customers in the gaps and then you have to start again and the project never grows.' Growing Communities supplier

'Progressively there were more and more box schemes around, mostly grower owned at the time and mostly they started with selling just what that farm produced. Then little by little, presumably customers wanted also to be able to have crops, tomatoes, all the year round; they wanted to be able to have citrus in their fruit boxes and not just apples and pears. So, the box scheme offer had to change. That means that box scheme owners, whether they were a farm or somebody in the city running a box scheme and buying the produce in, they had to look for places to be able to buy those other imported goods from'. COFCO supplier.

'Supermarkets have developed very big production of these things (produce) in England, but at the same time people still want to eat oranges and clementines and they are important to be a part of the balance for that and in boxes. You need all of those things... I just think you need all the other stuff as well to make it really interesting. People like it or not, eat out of season as well'. Growing Communities supplier.

5.4.4 Quality

Quality is a complex concept as its definition is socially constructed (Migliore et al. 2014),

thus making it subjective. Since this section is using as a reference the supermarket

experience, quality will be defined here as produce with high aesthetic standards which

includes no blemishes, consistently shaped and sized. In other words, 'supermarket quality'.

The literature includes quality in customers' motivations and barriers to join a box scheme or

CSA. Customers reported that accessing high quality produce was a motivation to join a box

scheme or CSA and included adjectives such as fresh and tasty (Seyfang 2008, Brown et al.

2009, Hashem et al. 2017). Others reported that the quality of produce was not consistent or that produce was lower quality (Seyfang 2008, Brown et al. 2009).

Defining quality in reference to supermarkets is suitable because data shows how case studies and suppliers define quality from this reference. The research found case studies focus on quality in relation to food waste. Case studies aimed for a mid-level quality to ameliorate the food waste created by high quality produce, a practice widely spread through supermarkets.

The following quotes demonstrate this definition of quality:

'We also take produce we might otherwise not take in an ideal situation. We might take something that's quite slightly damaged. We never grade out stuff like the supermarkets do.' Growing Communities representative.

'We also have wider and more forgiving specs for fruit and veg compared with supermarkets. On occasions when something simply can't go out to customers (e.g. if it's partly damaged) our grade-out system finds a good home for it.' Riverford representative.

For the director of Langridge Organics, one of the biggest organic wholesalers in the UK, quality is also defined in reference to supermarket quality and who produce is sold to.

Therefore, in his business different levels of quality are supplied to different clients. High quality produce is supplied to high end retailers like Planet Organic or Harrods. Mid-level quality produce is supplied to box schemes like Growing Communities. This produce would have a blemish or would be oddly shaped (wonky veg). Mid-lower-level quality produce is supplied to enterprises that do not require an aesthetically pleasing produce, but that it is fresh such as juice bars or food processors. Finally, the lower level produce is supplied as animal feed.

The research also found that supplying mid-level quality produce was a way to educate customers about supermarket practices and the impact they have on food waste as explained in the following quote:

'We had beetroots which were eaten by the moles and were too large, etc. The standard customer would be dissatisfied. We want to buy this, and we want customers, we encourage

and almost force them to consume things like that because it's justified against the distortions at the supermarket.' Exeter VegShare representative.

Although mid-level quality produce may be associated with case studies not caring for quality, the following quote demonstrates that suppliers and case studies care for quality and aim to reach a balance between perfect produce which generates food waste and low level which drives customers away.

'We didn't have our own carrots a few weeks ago and we were sending someone else's carrots and Margus rang up and said, "Oh the carrots are terrible." So, we rushed him the whole other carrots because he was going to send out these carrots to his customers who were fed up. So, it's really important that we went in and gave him some good carrots.' Exeter VegShare supplier.

Mid-Level quality means produce with lower aesthetic standards but often better taste and freshness. In this case produce is oddly shaped, of different sizes and sometimes unwashed. This is in contrast with supermarket produce which is uniformly shaped of similar sizes and clean (Bunn et al. 1990, Buzby et al. 2011). However, it is expected by consumers and reported by academics that box scheme and CSA produce has better taste and is fresher than supermarket produce (Zoll et al. 2018, Smithers et al. 2008, Forssell and Lankoski 2017).

The subsections in this section have been able to quantitize QUAL into QUAN data by scoring operational characteristics. However, this cannot be done with quality because to some extent quality is subjective as described by a COFCO supplier:

'From the growers' point of view, if you're producing it, suddenly it looks a lot better than to the person who's buying it' COFCO supplier.

Each case study would have an idea of the quality they aim to achieve. But without further research systematically defining and analysing quality characteristics, it is difficult to demonstrate levels of quality and the quality that it is achieved by each case study. In addition, quality changes depending on the growing season and weather. Therefore, quality has been discussed to demonstrate that it is an important consideration for case studies and

their suppliers, but it has not been measured because the analysis and data necessary was outside of the scope of the research.

5.4.5 Affordability and price

Like quality, affordability is also complex to measure because what is affordable for a group of people may not be affordable for another. No research was found measuring the affordability of box scheme or CSA products. However, studies on housing affordability relate affordability to income and use income as a way to measure it (Jones et al. 2011, Guerra and Kirschen 2016). As such, affordability is dependent on income. The research did not collect information on customer's income and therefore it cannot discuss the affordability of the products offered by the case studies. As such, the discussion will shift to price as it is also an element of affordability.

Studies of UK customers motivations to join box schemes and CSAs find that whilst some customers believe box schemes and CSAs are within budget (Brown et al. 2009) and are good value for money (Hashem et al. 2017) other customers find them too expensive (Brown et al. 2009, Seyfang 2008). Affordability is important for case studies as evidenced in the following excerpts of case study's mission statements.

'We believe that every person has the right to produce and consume healthy food. This is why we... provide affordable local veg bags' Green Isle Growers mission statement.

'Growing Communities aims to provide affordable, sustainable products and services' Growing Communities mission statement.

'We wanted to be able to supply it (good and nutritious food) at prices people like ourselves would find affordable' Keveral Community Growers mission statement

The price of a vegetable bag was discussed in the product section in Chapter 4. Vegetable bag prices were compared using a price per item measurement. The research found a range of price per items in the case studies. The most expensive being Riverford (£2.45 per item) and the cheapest Exeter VegShare (£0.88p per item). Growing Communities and Keveral

Community of Growers share the same price per item (£1.76). Beyond this no patterns in the price per items were found, this may be because the sample is too small.

Table 5.5: Convenience, choice, local and seasonal vs variety, and price practices and scores per case study.

Case study	Convenience	Choice	Local and seasonal vs variety	Price (Price per item)
Riverford	14	7	Variety	£2.45
Canalside	6	2	Local and seasonal	£1.85
Growing Communities	9	2	Variety	£1.76
Keveral Community of Growers	9	3	Variety	£1.76
COFCO	14	6	Variety	£1.73
Green Isle Growers	8	2	Local and seasonal	£1.50
Future Farms	11	2	Local and seasonal	£1.14
Exeter VegShare	7	1	Local and seasonal	£0.88

Source: Author

With the data available, the research tried to find if convenience, choice, local and seasonal vs variety impact the price of vegetable bags. Table 5.5 amalgamates the measurements and performed thus far.

The table shows that Riverford who offers the most convenience and choice and, offers variety has the most expensive price per item in the sample. This finding could suggest that enterprises that try to meet customer's needs offer more expensive bags because they create extra costs. Convenience is more expensive because, for example, home delivery requires vehicles and drivers whilst picking up from headquarters saves on both. Choice also creates extra costs. Packing a wider range of vegetable boxes would take workers longer than a narrow range. Variety could also contribute to extra costs, for example Chapter 4 found that fruit bags, which heavily depend on imported produce, are the most expensive.

However, other data suggests that trying to meet customer's needs does not lead to more expensive bags. The assertion that convenience, choice and variety create more expensive vegetable bags could be true if COFCO had the second most expensive price per item, who

has the same level of convenience of Riverford (14), one point less in choice (6) and offers variety as well. But COFCO is the fifth most expensive bag in the sample. Moreover, Canalside which is the least convenient in the sample, offers low choice and local and seasonal produce has the second most expensive price per item in the sample. This evidences that convenience, choice and variety, in this sample, do not contribute to the price of a bag because case studies who have high price per items do not feature these characteristics. Further research could analyse other elements that could influence the price box schemes and CSAs charge for their products such as the mark up, the cost of produce and other services, like involving customers in food production. Therefore, the research found that there are a wide range of prices being charged by case studies which make vegetable bags more or less affordable and that convenience, choice and variety do not impact these prices.

5.4.6 Customer retention methods

The previous section discussed five customer's needs: convenience, choice, variety, quality and, affordability and price. This section brings together these customers' needs into customer retention methods named after Galt et al.'s (2018) study of former CSA customers' reasons for leaving. The research identified four customer retention methods.

Figure 5.3: Customer retention methods

Future Farms	Method 1
Green Isle	Convenience: 8.6
Exeter	Choice: 1.3
	Local and seasonal
Canalside	Method 2
	Convenience: 6
	Choice: 2
	Local and seasonal
Keval Community	Method 3
Growing Communities	Convenience: 9
	Choice: 5
	Variety
COFCO	Method 4
Riverford Sheffield	Convenience: 14
	Choice: 6.5
	Variety

Source: Author

The first method identified is implemented by Future Farms, Exeter VegShare and Green Isle Growers. They have varied levels of convenience (11, 7 and 8), and similar but low levels of choice (2, 2 and 1), prices are the three lowest and only offer local and seasonal produce.

Another distinct method is implemented by Canalside. Differently to the previous category, it has the lowest convenience in the sample (6) and the second highest price. But similarly to previous categories, it offers low choice (2) and local and seasonal produce. A third method is practiced by Growing Communities and Keval. They have higher convenience (9) than previous categories, their prices are the third highest and offer variety. Like the second category, they offer low choice (2 and 3). The final method used by Riverford and COFCO is to offer a high level of convenience (14 both), choice (7 and 6) and variety. Their prices are the highest and third highest in the sample. Figure 5.3 brings together customer retention methods

Customer retention methods are in a spectrum. Methods 1 and 2 are for customers who are willing to change their lifestyles to accommodate the demands of the CSA or box scheme, for example receiving only local and seasonal food or traveling to the pick-up point to collect

and pack the bags as identified by Galt et al. (2018). Here customers accommodate to the needs of the case study. On the other hand, method 3 and 4 offer higher convenience, choice and variety. Thus, case studies accommodate to customer's needs. Case studies implementing methods 1 and 2 have less customers than enterprises implementing methods 3 and 4. This is related to the supermarkets being the most common way to shop for food. Customer retention methods that are closer to the supermarket experience recruit and retain more customers than those who are further away from it. Further evidence of this is the customer numbers of the case studies implementing each method. Those implementing methods 3 and 4 have more customers than those with methods 1 and 2. Therefore, variety and high levels of convenience and choice attract and maintain higher numbers of customers. The conceptual framework discussed the hybridity of AFNs. The customer retention methods evidence this hybridity in the practice. Whilst some case studies implement methods away from conventional practice, others choose to be closer to conventional methods which in turn allows them to keep larger customer numbers.

5.5 Commercial activity

The aim of this section is to bring together the principle value and commercial behaviour through commercial activity. It does so in four sections. The first establishes the importance of commercial behaviour as a conventional value essential for the economic sustainability of AFNs. The second section describes the two factors that determine commercial activity. First, business size, which represents the principle value and derives from operational characteristics in the form of enterprise types and customer retention methods. And the other, commercial behaviour deriving from financial characteristics in the form of financial viability approaches and balance between values and commercial behaviour. The final section describes how these factors come together to achieve a type of commercial activity. As such,

commercial activity is the type of trade performed by an enterprise. Case studies perform different types of commercial activity given their business size and commercial behaviour.

5.5.1 Importance of commercial behaviour

Chapter 2 described the values associated with AFNs and their importance for changing food systems towards sustainability. It also evidenced that AFNs are hybrid because they implement alternative and conventional values. The main conventional value the thesis will analyse is commercial behaviour because of its importance towards achieving financial sustainability.

Academic literature connects commercial activities with the conventional food system and therefore to be avoided by AFNs. The word ‘commercial’ is designated to supermarket practices like price competition, economic efficiency, standardisation, responding to consumer demand and entrepreneurialism (Klein 2015, Forssell and Lankoski 2017). ‘Commercial’ is also used to characterise AFNs that depart from the aims and values of AFNs (Brown et al. 2009, Bloom and Hinrichs 2011).

Commercial can be defined as the aim of earning money. The Oxford dictionary defines it as ‘making or intended to make a profit’ (Oxford University 2019). Profits are the funds left after variable and overhead costs are subtracted from the total sales of the enterprise. The owner or shareholders aim to earn profits from their investment in a business. Therefore, the more profitable, the more commercial the business is.

Some case studies also referred to the word ‘commercial’ to mean practices they are against. For example, the following quote evidences the belief that commercial practices do not provide people with what they really need.

‘We have a massive amount of our land dedicated to cauliflowers. If we were commercial we will never do that. But our cropping plan is designed to feed people, is not designed to meet a commercial demand.’ Canalside representative.

The next quote shows how the case study aims not to operate as a commercial business

'What we don't want is for this project, like the case of some of the communities started or supported ventures they end up quite commercial. We have a shop in town... which is supposedly a community owned shop which sells all the local food. But they don't really rely on volunteers, it is a very professionally run operation, paid staff. The problem is that this affects their pricing which is not very socially accessible anymore.' Exeter VegShare representative.

These examples show that some case studies interpret the word commercial as something to be against. This matches the interpretation of commercial in the academic literature.

However, other case studies perceived commercial in a positive light. For example, for Keveral Community of Growers being more commercially minded allows them to invest the money in making infrastructure improvements at the farm.

'We do actually need to make some money from something somehow, enough, to pay for things and to make things better as well. We are trying to improve all the stuff here (at Keveral Farm) at the moment... So, yea we've become a little bit more serious about the more commercial side of it, in terms of making sure it works.' Keveral Community representative.

Commercial behaviour is defined as the way enterprises behave towards earning money. The quotes evidence two ways of thinking about commercial behaviour. On one hand those that believe commercial behaviour is against box scheme and CSAs' values. On the other those who believe commercial behaviour enhances values. The debate whether being commercial is or is not part of AFNs has also been discussed in academic research. Pratt (2009) suggest AFNs should not be evaluated through a capitalist lens because they are organisations that resist the capitalist system and instead operate from their own values. But Galt (2013) argues AFNs must be analysed through a capitalist lens because they take part in commodity exchanges that make them subject to it. If they attempt to ignore the capitalist system in which they operate they risk ceasing to exist. As such commercial behaviour is important for the existence and future development of the sector.

Box 5.1: Reasons profit is important

1. Profits allow for building and equipment updates, when physical assets wear out or become inefficient and obsolete.
2. Profits provide funding for growth and expansion.
3. Profits allow one generation to transfer a business to the next without a mountain of debt.
4. Profits allow for investment in savings accounts, whether business or personal, for retirement or a rainy day. Working capital is one of the most underestimated needs in a small business, particularly a start-up.
5. Profits pay back the principal portion of loans.
6. Profits, and the ability to handle debt service, position a business as a better risk when seeking credit.
7. Profits show the company is doing a good job and is stable. No one wants to work for a company that might not be in a few months. Vendors don't want to sell to a company that might not be able to pay the bills much longer, and customers like knowing their suppliers are going to be around.
8. Profits allow the business to attract – and afford – the kind of talent they want to work with.
9. Profits allow the business to be economically sustainable and to make the ultimate decisions about how the business is and should be operated.

Source: NGFN (2014:11)

The aim here is to reclaim commercial behaviour as crucial for the economic sustainability of box schemes and CSAs. However, acknowledging that commercial behaviour is part of conventional values. As mentioned in Chapter 2, AFNs are hybrid, that is they borrow from alternative and sustainable values. Being commercial is a conventional value that it is crucial for economic sustainability, therefore evidencing the hybridity of case studies. The Food Hub Benchmarking study lists the reasons why being profitable, thus commercial, is important for the enterprise as shown in box 5.1.

Another reason why being commercial is important is the trading impact it generates with farmers of all sizes. According to the 2017 Organic Market Review the organic market in the UK is a \$2.09 billion industry. Of this 68% is traded through supermarkets and 12% through home delivery which includes box schemes and CSAs (Soil Association 2017). Supermarkets generally source UK organic produce from those who can supply volume which are >14.1ha growers. Instead box schemes and CSAs source from all types of farmers allowing them to

access the market. As such the trade generated by box schemes and CSAs is important because it keeps sustainable vegetable growers of all types in business and a portion of the organic industry independent of supermarkets.

It is proposed that commercial behaviour is viewed through the lens of commercial activity. Commercial activity can be defined as the form of trade performed by an enterprise. As such, case studies perform different forms of commercial activity. These are determined by business size and commercial behaviour as described in the following section.

5.5.2 Factors that determine commercial activity

The research identified two factors that determine commercial activity: business size and commercial behaviour. Both factors are the result of the strategic fit (Porter 1996) or alignment. In the case of business size between enterprise types and customer retention methods. In the case of commercial behaviour between financial viability approaches and the way enterprises balance values and commercial behaviour. The following subsections describe how these factors contribute to commercial activity.

5.5.2.1 Business size

This subsection aims to analyse how enterprise types and customer retention methods contribute to the size of the business. By doing so, it is evidenced how enterprise types and customer retention methods align with each other to meet the principle value. Thus, this section also aims to demonstrate that principle value is the most important and the one case studies achieve the most as their operations are designed to accomplish it. The section identifies two types of business size: limited and expansive. Community and grower enterprises have a limited business size and trade enterprises an expansive business size. Case studies impose themselves limited or expansive boundaries in terms of their sourcing and customer retention methods.

a. Limited business size

Community enterprises source produce from their own production. Produce is limited because it depends on the farm's capacity to produce food which relies on the size of the land, the size of the workforce and their skills. Even at a full capacity, a farm can only produce a certain amount of food, therefore serving only a certain number of customers. The principle value of cultivate a community that produces and consumes food aligns to this sourcing method because it provides a space for the community to grow food. But this focus on community also limits the business size because these communities must be of a certain size. For Canalside, to keep a sense of community, its size should be no more than 150 people. This generates enough income to pay staff and for customers to form a community. Therefore, the size of the business is not only limited to the capacity of the farm but also to the size of the community supporting food production. As such there is no desire to become a bigger business. About this a representative from Canalside says:

'Sociological research shows that a good size for a community is about 150 people... You can generate enough income to pay the growers fairly and people can get to know each other as a community...we don't have much ambition to scale up, we don't want to make more money basically, we want the business to succeed. That means that we need to always have enough members to generate the income to keep it going'

Similarly, Future Farms has no desire to expand. The enterprise functions thanks to a significant volunteer effort. But because the enterprise relies on volunteer effort it does not want to become more complex. This would mean greater commitment from volunteers even if they become employed by the enterprise. Volunteers want to maintain their lifestyle and not take on more responsibility, especially those that are retired. This is evidenced in the following quote:

'If we had a lot more customers it'd have to be quite a different kind of enterprise, sort of more professionally run I suppose, because if it's fairly small scale and things go wrong, they only go wrong at a small scale. If it's a big thing then things can go very wrong and it's difficult for someone to put that right' Future Farms representative..

Customer retention methods align to the aim of keeping communities small therefore further limiting the business size. Future Farms implements a method 1 and Canalside method 2.

This means that they are only attractive to customers that are willing to substantially change their lifestyles to accommodate the demands of the enterprise, which are the minority. As such to find suitable customers is more challenging.

The alignment between enterprise type and customer retention methods evidences the importance of the principle value. Sourcing from own production, requiring customers to take part in food growing and recruiting customers that are willing to change their lifestyles to accommodate the demands of the case study all contribute to cultivate a community that produces and consumes food. As such, operational characteristics are designed to meet the principle value making it the most important and the most practiced by community enterprises.

Grower enterprises also have a limited business size. Their principle value contributes to this limitation because it focuses on providing member growers with a fair and secure income. Therefore, when purchasing they must prioritise buying more from member growers than from wholesalers limiting the amount of produce they can access. There are three reasons why this is a limitation. First, by sourcing mostly from grower members, these enterprises are dependent on the number of members involved. Second, enterprises are limited to member growers' capacity to produce food because they also have limited access to land, skills and/or workforce. The following quotes capture how land limits grower members' capacity for food production:

'At the moment having access to enough land in order to grow enough things is... setting the ceiling on what we can really do.' Keveral Community representative.

'The access to land is obviously a problem for those that do want to grow vegetables. If you don't have a farm to start with it's quite hard to afford to buy even a little bit of land and there's not much available, hardly anything available to rent... I actually managed to buy my

bit of land, because I used to work in London and I was able to save up a bit of money.'
Green Isle Growers representative

Third, including more member growers is dependent on growing the customer base as expressed by a Green Isle Growers representative:

'It was a bit of a controversial move to bring an extra grower last year without knowing whether we'd be able to get (more customers). That's why we have to try and increase our customer base to 60 this year, so that we can actually sell the produce we're growing to the scheme.'

The supply chain structure of grower enterprises aligns to the sourcing method and principle value. Growers share the role of manufacturing and merchandising by purchasing from themselves and a wholesaler in order to ensure income security. But this also limits their business size because growers must split their time between growing and administering the box scheme. If the box scheme grew significantly it is uncertain whether growers could perform both roles. In fact, Keveral has some member growers only supplying the box scheme and has hired some people to perform tasks only related to the administration of the box scheme, however their contribution is small. This suggests that if grower enterprises increased their customer bases their operations could change.

Grower enterprises implement different customer retention methods which impact their business size. Green Isle Growers implements method 1 making it less appealing for customers and thus smaller than Keveral Community which implements method 3. The business size is impacted by the level of choice these enterprises offer which aligns with the types of member growers these enterprises recruit. Green Isle has member growers within the <4ha category. This means most produce is on the seasonal category and is not able to offer basic items thus offering less choice. Instead, Keveral's member growers are <4ha and 4-14.1ha which means they can source base and seasonal crops therefore offering more choice to customers and achieving a bigger business size. Green Isle only sources from <4ha

growers to respond to the local environment in Wales, which is dominated by sheep farming due to poor soil conditions in the region. This is described by a Green Isle Growers representative:

'There's not that much horticulture going on around here on that larger scale actually. It's pretty much sheep and cows around here... the soil quality is not as high as southwest of England or other parts of England would be, hence traditionally it's been pastoral farming, but it's not to say you can't grow crops here, because we do, but its more challenging conditions – acidic soil, the weathers very wet, the season can be quite short.'

Grower enterprises limitations to access produce could be surpassed by purchasing from wholesalers. However, two reasons prevent them from having an unlimited supply through wholesalers. First, they must prioritise buying more from member growers than from wholesalers. A second limiting factor is how the enterprise chooses to use the wholesaler. Keveral uses the wholesaler's UK and beyond produce to supplement the local and seasonal produce from member growers. On the other hand, Green Isle Growers uses its wholesaler when growers fail to supply the quantities required. Therefore, Green Isle Growers offers local and seasonal produce and Keveral variety. This difference forces Green Isle Growers to operate only six months of the year because that is when member growers have enough available produce. Rather, Keveral operates all year round by complementing with wholesaler produce during the hungry gap and winter months.

Enterprise types and customer retention methods align with each other to meet grower enterprises' principle value thus evidencing its importance. However, since grower enterprises implement different customer retention methods the alignment is different. Both enterprises limit the amount of produce they can source by prioritising buying from member growers and thus provide member growers with a safe and secure income. Both also require member growers to take part in the packing and distribution. In the case of Green Isle to keep operational costs low and therefore direct most of the value to the grower and in the case of Keveral to pay member growers for this service. In terms of customer retention methods,

Green Isle Growers limits the customer base by implementing method 1 because they cannot offer variety. They could offer variety by buying more from the wholesaler but this would defeat the principle value. Keveral Community implements method 3 which means they are more attractive to customers, thus having a bigger customer base which in turn means more sales for grower members. As such although the alignment is different both enterprises' operations are set up to meet their principle value.

b. Expansive business size

Trade enterprises have an expansive size thanks to the alignment between their enterprise type and customer retention methods. This category includes Growing Communities, COFCO and Riverford Sheffield. In terms of the enterprise type, their principle value is to market the most amount of sustainable food. The sourcing method and supply chain structure align to this value by providing the volume of produce and staff time necessary. Differently to Community and Grower enterprises, trade enterprises' sourcing methods place no limits on the amount of produce enterprises need to source. If the produce supplied by growers is insufficient they can establish trading relationships with other suitable growers therefore securing more produce. Aligned to this high availability of produce is customer retention methods 3 and 4 which require less changes in customers' lifestyles and therefore are more attractive. Trade enterprises can have a customer base as big as they wish because their enterprise types and customer retention methods allow them to do so, therefore their size is expansive.

The alignment between enterprise type and customer retention methods shows the importance of principle value. Sourcing from a range of growers, keeping supply chain actors within their traditional roles, having dedicated teams for their own production, and offering convenience, choice and variety allows these enterprises to market the most amount of sustainable produce.

Therefore, the operational characteristics are designed to meet the principle value thus becoming the most important and most practiced by trade enterprises.

Exeter VegShare cannot be included in the expansive size category due to the lack of alignment between its enterprise type and customer retention methods. It has been established that although Exeter VegShare has been classified as a trade enterprise its principle values is not completely clear. The enterprise sourcing method, which is from one supplier, suggests that the enterprise could be classified as expansive because if need be, Exeter VegShare could establish trading relationship with more growers. This sourcing method would align with the aim of trading sustainable food. However, its customer retention methods are focussed on clients willing to change their lifestyles to accommodate the demands of the box scheme implying that the enterprise wants to recruit customers that are rare to find. As such, there is no strategic fit between enterprise types and customer retention methods. Given this, Exeter VegShare will be classified as a limited enterprise because although its sourcing methods have the potential to be expansive, its customer retention methods are limited.

Business size enables or limits the amount of commercial activity an enterprise can perform. This section has also evidenced that business size is the alignment between enterprise types and customer retention methods. All case studies, except for Exeter VegShare, have enterprise types and customer retention methods that align themselves to a principle value therefore accomplishing strategic fit as established by Porter (1996) and resulting in a type of business size. Enterprise types and customer retention methods discussed in the earlier part of this chapter, which derived from operational characteristics, have been used in this section to evidence how an enterprise has a limited or expansive business size. The next section will discuss how financial characteristics contribute to commercial activity.

5.5.2.2 Commercial behaviour

Chapter 4 described financial characteristics of box schemes and CSAs through the way they approach financial viability. This section presents another financial characteristic which is the way in which they balance between values and commercial behaviour. This characteristic is introduced here, instead of the previous chapter, because it derives from the alignment between it and financial viability approaches. Furthermore, unlike the data used in the previous chapter, this section uses observations made during the data collection and opinions, views and reflections of participants.

The underpinning economic philosophy behind AFNs is social embeddedness. AFNs open the space for economic transactions between producers and consumers where values are prioritised over commercial behaviour (Hinrichs 2000). By prioritising values, the economic exchanges within AFN work towards the wellbeing of producers, consumers, communities and the environment. This economic philosophy has been the base of several conceptualisations of AFNs such as the *foodshed* (Kloppenburg 1996), *the new agriculture* (Hamilton 1996), and *marketscapes* (Lyson and Green 1999). However, research has evidenced that commercial behaviour is present and necessary in AFNs. Hinrichs (2000) found that commercial behaviour is present in AFN economic transactions. Ilbery and Maye (2005) evidence that specialist food producers dip in and out of conventional supply chains to maintain economic sustainability. Sage (2003) concludes that the prioritisation of values does not sustain livelihoods. Finally, this section has highlighted the importance of commercial behaviour. Therefore, case studies must balance between values and commercial behaviour. The research identified two ways in which case studies do so.

a. Low priority commercial behaviour

The first way is by prioritising values and giving commercial behaviour a lower priority. This is the case of Future Farms, Green Isle Growers and Exeter VegShare. These enterprises receive resources that help them fulfil values such as community cohesion, strengthening sustainable food systems and participation in local food. However, by doing so these enterprises avoid the true costs of their operations. For example, Future Farms receives free labour from Martin's residents, therefore relieving it from most of the wage cost. It also receives funding for infrastructure thus also avoiding earning those funds themselves through sales revenue. Similarly, Green Isle Growers relies on the volunteer input of member growers to pack and deliver which saves on operational costs. Finally, Exeter VegShare receives substantial resources from the Student's Guild to pay wages, bookkeeping services and a space to operate from. Receiving resources is not in itself evidence of giving commercial behaviour a lower priority. Commercial behaviour becomes a lower priority when it aligns with a dependency approach to financial viability, as it is the case here, because these resources help to cover operational costs which should be covered by sales revenue.

Further evidence of giving commercial behaviour a lower priority is that tasks related to it are also low priority such as bookkeeping. As discussed in Chapter 3, there were two case studies that did not keep accurate records of their finances. They belong to this category. The 2014 food hub benchmarking study acknowledges that performing desk-based tasks is lower in the priority list of food hubs than tasks related to distributing food. It may be that this is also the case with these box schemes and CSAs. Staff prioritise tasks related to the weekly delivery of vegetables than to tasks related to commercial behaviour such as bookkeeping. Moreover, the limited capacity in these enterprises may force staff to spend more time in immediate tasks than in tasks that are longer term such as preparing tax accounts. As such, tasks like bookkeeping fall lower in the priority list.

A final factor that evidences giving commercial behaviour a lower priority is the participants' attitude towards earning money for themselves. Participants in these enterprises prioritise 'doing the right thing' instead of financial gain as evidenced in the following quotes:

'Many of the students are struggling including myself, financially, but we still do it because it's the right thing to do.' Exeter VegShare representative.

'We're all doing this work for very little money, there's sort of a sense of wanting to support each other in it I guess. Certainly, none of us have come into it for the money, something else is going on.' Green Isle Growers representative.

The self-worth of these participants is measured by the fact that they choose to dedicate themselves to a selfless cause. This attitude permeates into the way in which enterprises are financially managed. Worth is measured on altruistic indicators and thus there is no need for financial indicators because there is already value in what they are doing as individuals and therefore as an enterprise. Yet, this attitude makes these enterprises vulnerable because without the resources they receive or the sacrifice its participants make, it is unlikely they can carry on operating in their current form.

The impact of prioritising values and giving commercial behaviour a lower priority on commercial activity is that by being more focussed on meeting their values, these case studies fail to understand their economic position and implement strategies to improve it, therefore, decreasing or limiting their commercial activity.

b. High priority commercial behaviour

The other way in which case studies balance between values and commercial behaviour is by prioritising commercial behaviour as long as sustainability values have been met. This way of behaving commercially is practiced by Canalside and Growing Communities who implement an equilibrium approach to financial viability. Also, by COFCO, Riverford Sheffield and Keveral community who implement a market approach to financial viability. These approaches demand case studies to cover their operational costs with sales revenue therefore

making commercial behaviour important, but only when values have been met. The economic goal of these enterprises is to make a profit. But, this is not to say that these enterprises do not receive resources. Indeed, Canalside and Growing Communities receive volunteer labour input and funding. But differently to the previous enterprises, these resources are not used to cover operational costs and systems are implemented to ensure the sustained input of those resources as is the case with volunteer labour at Canalside or the investment in project development at Growing Communities. So, these enterprises show more awareness of the resources (in kind and financial) needed to run their enterprises and implement strategies to sustain them.

The importance they place on commercial behaviour was evidenced in the knowledge about their financial position. Their financial records were easy to access, with enough detail, and accurate. When questions arose during the financial analysis they were resolved promptly. The interviews about finances also evidenced a coordinated and organised bookkeeping practice.

Participants' attitude towards commercial behaviour further evidences the case studies' approach to balance it with values. Their attitude towards profit is that it opens the possibilities to achieve more either for themselves or the enterprise. In the following quote commercial behaviour ensures the viability of the business which in turns provides financial security to the family:

'This probably makes it sound too commercial, but it is quite a numbers game to get it sustainable and viable... you do have to get the business running to a point where its viable as a family and a person. It's all about getting enough new customers.' Riverford Sheffield representative.

The following quote evidences that commercial behaviour allows enterprises to invest in infrastructure which in turn grows the business.

'They actually got all 7 tunnels up by the 3rd or 4th year which is pretty quick. You swiftly realise the moment when you got a couple of grand spare, put it in a tunnel. That's what you do with your spare money in growing, is well worth it.' Canalside representative.

The interviews also showed that prioritising commercial behaviour and keeping close attention to finances helped case studies achieve their financial goals. In the case of Keveral this is providing growers with a fair and secure income and for Canalside to achieve financial viability. This is shown in the following quotes:

'All the costs are as small as they can be for the actual operation of the selling of the boxes, so that means there's as much money as possible to pay people (member growers) for the product.' Keveral representative.

'The plan was to break even, but without any real understanding of what you had to do to achieve that...And then we realized actually if we budget for a certain income then we have to do something to make sure we get those customers...We go to events where we know the kinds of people that will be attracted to Canalside will attend. We don't even really go there to sell veg, we go to sell memberships to Canalside...if you got to a farmers' market, you can work all day and make a £100 surplus, that's nothing. If you go to the same farmers' market and you sell 3 memberships, that's worth £1500 over the course of the year.' Canalside representative.

The impact of prioritising commercial behaviour as long as sustainability values are met on commercial activity is that these enterprises have a clear understanding of their financial needs and implement strategies to achieve them whilst making sure their values are practiced. This increases their commercial activity to the point it wants to be achieved. In the case of Canalside it is 150 boxes but for COFCO so far it is unlimited.

5.5.3 Commercial activity

Commercial activity is the type of trade performed by an enterprise. As such, case studies perform different forms of commercial activity given their business size and commercial behaviour. The research identified three forms. The first is 'commercially shy', practiced by Exeter VegShare, Green Isle Growers and Future Farms. These enterprises have a limited business size due their enterprise type and customer retention methods. These factors constrain the amount of commercial activity because their capacity to produce or source produce is limited, and their customer retention methods are not as attractive to customers as

other methods. They give commercial behaviour a lower priority and implement a dependency approach to financial viability. This further limits commercial activity because enterprises do not generate profit to invest in improving their capacity for example by hiring more staff or investing in developing their financial management skills. Resources such as volunteer labour or grants are used to cover operational costs or needs therefore making these enterprises dependent on them and vulnerable.

Another commercial activity form is 'commercially driven' implemented by Growing Communities, COFCO and Riverford. Their business size is expansive because their enterprise type allows them to procure as much produce as possible and their customer retention methods make it easier to attract and retain customers. As such their commercial activity is the highest as evidenced by their customer numbers, the three highest in the sample. Furthermore, they prioritise commercial behaviour and therefore these enterprises practice financial viability through an equilibrium and market approach. Their commercial behaviour contributes to higher commercial activity as these enterprises invest profits in developing new projects, pay for loans or invest in infrastructure.

The third form of commercial activity is those enterprises that are 'not commercially driven nor shy' which are Canalside and Keveral Community. A limited business size makes these enterprises commercially shy, because their enterprise type limits the amount of produce they can source therefore limiting their commercial activity by being able to reach a limited number of customers. But their commercial behaviour makes them commercially driven because they embrace commercial behaviour and implement a market and equilibrium approach to financial viability. As such, these enterprises improve their capacity by investing profit in infrastructure as evidenced by Canalside or in improving the income of member growers as evidenced by Keveral. Given the characteristics these enterprises are between being commercially driven and shy.

Figure 5.4: Alignment between enterprise types, customer retention methods and commercial activity

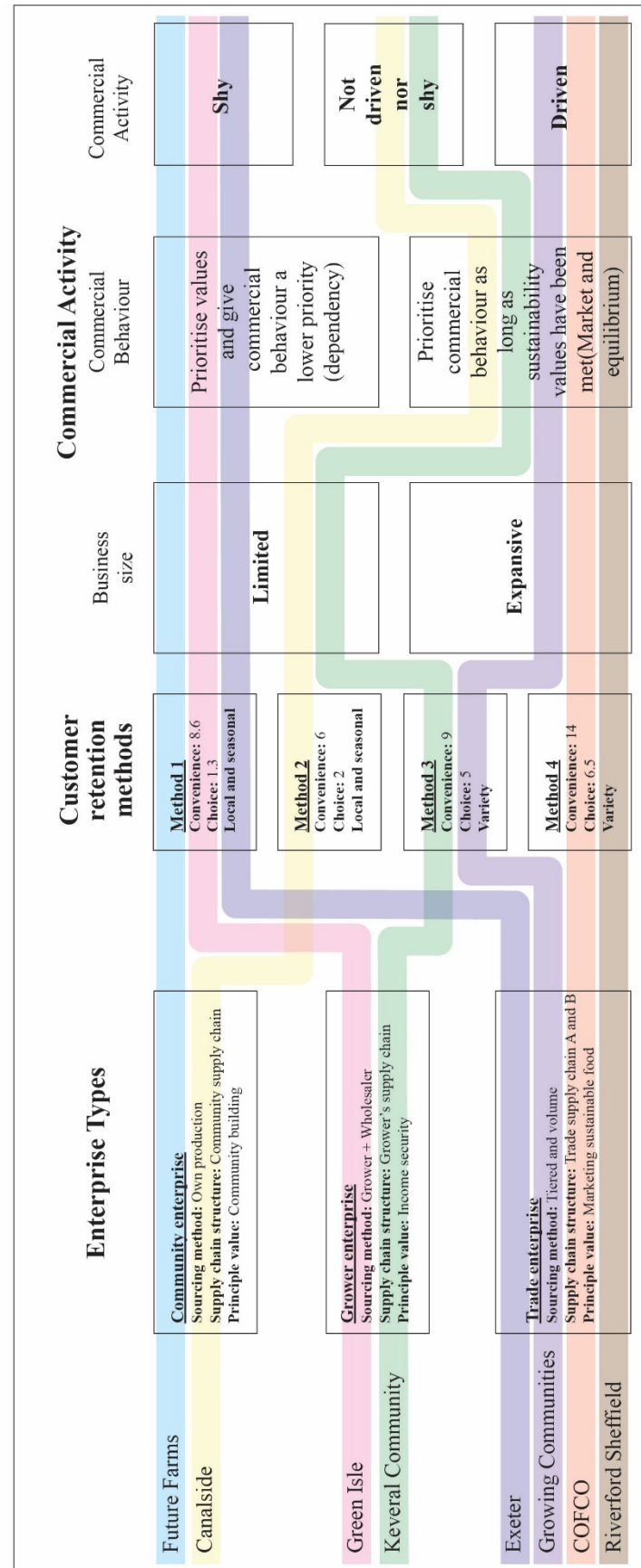


Figure 5.4 diagrams the alignment between enterprise types, customer retention methods and commercial activity. It shows how each case study navigates these different typologies which result in a commercial activity. Whilst the alignment of some case studies shifts others are straight demonstrating the variety in approaches. Appendix 6 (fold-out map) shows how this diagram relates to the operational and financial characteristics of the previous chapter and to the results of the following chapter.

5.6 Values, how and to what extent

The focus of this thesis is on the values of box schemes and CSAs. This chapter contributes to this analysis of values by identifying two: principle value and commercial behaviour.

Principle value is the main value case studies practice. It was identified from operational characteristics and belongs to sustainability values as community building contributes to social sustainability and, income security and marketing sustainable produce to economic sustainability. Commercial behaviour is the way enterprises behave towards earning money.

It was identified from the financial characteristics. It belongs to conventional values as established in the literature. Identifying both values through the characteristics of the case studies allows the research to evidence how these values are operationalised.

The aim of this thesis is to determine how and to what extent sustainability values are practiced and by box schemes and CSAs. Three conclusions contribute to this aim. First, the principle value is the most important and the one case studies achieve the most as their operations are designed to accomplish it. Second, commercial behaviour is critical for the economic sustainability of the enterprise. Third, the relationship between the principle value and commercial behaviour is that the latter impacts on the extent to which the former is practiced but does not shape it. Therefore, there is no alignment or strategic fit between them.

The fact that community enterprises and grower enterprises have a different commercial activity is evidence of the independence between principle value and commercial behaviour.

The principle value of community enterprises is to cultivate a community that produces and consumes food. But they differentiate themselves in their commercial activity due to their commercial behaviour. Future Farms is commercially shy because it neglects commercial behaviour and implements a dependency approach to financial viability. Canalside is not commercially driven nor shy because it embraces commercial behaviour and implements an equilibrium approach to financial viability. The difference in commercial behaviour impacts on the extent to which the principle value is practiced. Canalside is more resilient therefore guaranteeing to their community their existence and thus securing a community that produces and consumes food. On the other hand, Future Farms is more vulnerable, depending on resources such as volunteer labour and funding for their existence. Thus, it is unable to guarantee a community that produces and consumes food if the current circumstances were to change.

Another example is Green Isle Growers and Keveral Community, grower enterprises that share the principle value of providing member growers with a fair and secure income.

Keveral is not commercially driven nor shy because it embraces commercial behaviour and implements a market approach to financial viability. Instead, Green Isle Growers is commercially shy because it neglects commercial behaviour and implements a dependency approach to financial viability. Keveral is able to accomplish the principle value to a greater extent than Green Isle. Whilst Green Isle contributes to growers' incomes by buying their produce, Keveral also does and in addition it remunerates them for packing and distribution. Therefore, by embracing commercial behaviour Keveral offers its member growers better incomes than Green Isle Growers. These examples show that in both enterprise types

commercial behaviour does not shape the principle value but rather it impacts on the extent to which it is practiced.

5.7 Summary

This thesis aims to determine how and to what extent sustainability values are practiced by box schemes and CSAs. This chapter contributes to this aim by identifying the principle value and commercial behaviour. The principle value is derived from operational characteristics and therefore it is the most important and the one case studies achieve the most as their operations are designed to accomplish it. Commercial behaviour is derived from financial characteristics and it depicts the way enterprises behave towards earning money. This chapter uses competitive strategy to identify these values from the characteristics of the case studies. Another contribution towards the aim of the thesis is the analysis of how and to what extent principle value and commercial behaviour are practiced. The analysis of how principle value and commercial behaviour relate to each other helps to answer this question. Commercial behaviour impacts on the extent to which the principle value is practiced but it does not shape it. In other words, Principle value is shaped by the operations of an enterprise and commercial activity hinders or enables the extent to which the principle value is practiced. As such there are case studies, like Future Farms and Canalside, who share the principle value but achieve it to a different extent due to their commercial behaviour. Given these findings, the question that arises is how do case studies practice other sustainability values and to what extent? Chapter 6 will answer this question using trade-offs, another element of competitive strategy.



Chapter 6

Sustainability and Trade-offs

6.1 Introduction

The aim of this chapter is to understand how the principle value and commercial behaviour impact on the construction of sustainability. Chapter 5 identified the principle value and discussed commercial behaviour. This chapter analyses how these values impact on social, economic and environmental sustainability. The chapter makes three arguments. First, that commercial behaviour and principle value make case studies trade-off between social, economic and environmental values. Second that each case study builds its own version of sustainability based on the principle value and commercial behaviour they choose to practice. And third, the extent to which sustainability values are practiced is dependent upon the principle value, and commercial behaviour.

To analyse sustainability is necessary to define it. As outlined in the conceptual framework, the thesis adopts Maxey's (2007) definition where sustainability is socially and politically constructed in which those involved in building it ask themselves what they aim to sustain and how. To analyse sustainability the chapter relies on the operational and financial characteristics identified in Chapter 4. To connect these to sustainability the chapter uses

Forssell and Lankoski's (2014) framework which determines the social, economic and environmental sustainability impacts of each AFN characteristic. At each AFN characteristic the binary between the conventional food system and AFN will be established. For example, global vs local food. This will help determine how far or how close the case studies practices are from these extremes and therefore demonstrate their hybridity.

The chapter is divided into four sections. The first recounts the conceptual framework explained in greater depth in Chapter 2. The following section analyses the sustainability of operational and financial characteristics through the AFN characteristics identified by Forssell and Lankoski (2014). The third section brings the AFN characteristics together and their sustainability impacts through an analysis of trade-offs. The last section discusses how Chapter 5 and this chapter respond to the questions proposed by the aim of this research: How sustainability values are practiced by box schemes and CSAs and to what extent.

This chapter contributes to this thesis by analysing how the principle value and commercial behaviour impact on the social, economic and environmental sustainability of case studies. Thus, furthering the understanding of how sustainability values are practiced by box schemes and CSAs and to what extent. The analysis is novel because it draws from several analytical tools such as competitive strategy, sustainability defined as a process and the framework proposed by Forssell and Lankoski (2014).

6.2 Conceptual framework

Maxey (2007) proposes that to study sustainability, defined as socially and politically constructed, is necessary to see it as a process. To do so, it is useful to draw on the idea of a binary, in other words the dichotomy between the conventional food system and AFNs. At first sight using a dichotomy may seem unhelpful. Indeed binaries have been contested in AFN literature as discussed in Chapter 2 (Allen et al. 2003, Sonnino and Marsden 2006,

Tregear 2011). But here a dichotomy is useful to understand how the practice of sustainability, which is hybrid, is constructed between these two extremes. Or put differently, how case studies borrow from the conventional and alternative to build their own sustainability. As such, the aim of this chapter is not to evaluate whether box schemes and CSAs are sustainable (a summative approach) but instead to understand how they build sustainability, by placing themselves between alternative and conventional, making trade-offs between practices and thus between sustainability values.

To this end, it is necessary to delve into the detail of how box schemes and CSAs operate which has already been done in Chapter 4. This level of detail is needed because only through it can trade-offs between practices surface and therefore uncover how sustainability is constructed. However, operations and finances alone are not enough to analyse sustainability. To link the case studies' characteristics to sustainability the research will use the framework by Forssell and Lankoski (2014) which explains how AFN characteristics contribute to sustainability. Its usefulness is in that it sets the sustainable values that can be claimed from each AFN characteristic. Operational and financial characteristics will be organised according to each AFN characteristic to analyse how sustainability is practiced.

Forssell and Lankoski's (2014) framework identifies four main AFN characteristics that contribute to sustainability. First, increased requirements for products and production in which the method of production is critical because it enables characteristics such as natural, better quality and healthier. Second is reduced distance which gathers characteristics related to geographical and network elements of AFNs in three dimensions: Physical distance (local food), number of producers involved in the supply chain (value chain distance) and how information of the product reaches the consumer (informational distance). Third is new forms of market governance which refers to the practices to coordinate the supply chain including building trust, balancing power and redistributing economic gains. Fourth, strong

relationships which is about the bond between producers and consumers and their participation within the supply chain. Finally, labour rights has been added to highlight their importance for achieving sustainability.

To analyse these AFN characteristics, the research has identified different measures which case studies consider demonstrate the practice of such characteristics. By doing so the research does not impose a set of sustainability measurements onto case studies but rather uses the measures case studies themselves consider are important. As such the research takes a bottom up rather than a top down approach to analyse sustainability. Evidence of the importance of these measures for the case studies will be presented at the beginning of each AFN characteristic subsection in the form of quotes and extracts from their mission statements and interviews.

Using these measures means that the research analyses what case studies *believe* is sustainable which does not necessarily mean it is sustainable. Examples of this include organic certification and food miles. Organic certification is one way to indicate environmental sustainability. However, is not the only one and the way in which it is set up and implemented does not necessarily mean is correct. Other forms of certification such as Participatory Guarantee Systems (PGS) can be more sustainable because not only do they set a standard at the level of production but also at the level of participation, association and collaboration between growers, which is essential for strengthening the sustainable food movement (Cuéllar-Padilla and Ganuza-Fernandez 2018). However, PGS was not identified within the case studies and five of the eight case studies are certified organic. So, organic certification is important within this sample. Food miles, as it will be shown in subsection 6.3.2, is used by case studies to communicate to their customers how they differentiate themselves from conventional food systems. However, as it will be discussed in Chapter 7, the concept of food miles has been challenged and much more needs to be understood about

the sustainability of transport in AFNs. Therefore, it is important to be aware that throughout the analysis the measures discussed are because case studies consider them important. It is their importance that drives case studies to find different ways to practice and trade-off between them and therefore why it is important to study them even when they can be challenged.

6.3 AFN characteristics and their contribution to sustainability

The ensuing subsections will go over the AFN characteristics proposed by Forssell and Lankoski (2014). They are structured in the following way: first they evidence the importance of the AFN characteristic for the case studies; then present the operational and financial characteristics relevant to the characteristic discussed; third, analyse how the practices implemented by the case studies contribute to social, economic and environmental sustainability; fourth, establish the binary and finally analyse the hybridity based on the empirical evidence. Appendix 6 (fold-out map) diagrams this section to show how each characteristic contributes to social, economic and environmental impact.

6.3.1 Increased requirements for products and production (organic food)

This characteristic was identified in the case studies through manufacturing and/or merchandising of organic fresh produce. All case studies reported the importance of trading organic produce as evidenced in the following excerpts from the mission statements:

'To be a pioneering organisation that produces fresh, seasonal, organic food for our members' Canalside

'We're organically certified, which means we have annual inspections to prove that all our fresh produce is organic' COFCO

'We champion ecological food and farming' Growing Communities

'The principle behind organic farming is that we should learn from and farm in sympathy with nature, rather than suppressing and dominating it' Riverford

As shown in Chapter 4 case studies manufacture and/or merchandise certified organic produce or produce grown with organic techniques but not certified. The type of produce that they choose to trade is related to their commercial behaviour. Case studies that prioritise commercial behaviour have organic certification whereas case studies that give commercial behaviour a lower priority do not have certification. However, Exeter VegShare, who gives commercial behaviour a lower priority, only buys from an organically certified producer. Therefore, from a legal perspective and according to the UK/EU organic standards, only the produce traded by case studies that prioritise commercial behaviour and Exeter VegShare can be labelled organic (Soil Association 2019).

Forssell and Lankoski (2014) conclude that the environmental impact of increased requirements for products and production is that it contributes to all aspects of environmental sustainability because farming techniques, like organic, are implemented. The contribution of certified organic farming to environmental sustainability has been evidenced (Gomiero et al. 2011). Moreover, Soil Association standards exceed the legal baseline for UK/EU organic standards especially in regards to the enhancement of the environment and animal welfare (Zanoli et al. 2014). In fact, most private standards are above EU organic standards as this is a compromise between 27 states and therefore bound to have a lower standard to be agreed (Foresi et al. 2016). Therefore, there is a clear contribution to environmental sustainability from certified organic techniques.

However, the contribution to environmental sustainability from non-certified case studies is not as clear. IFOAM defines non-certified organic farming as an ‘agricultural system that fully meets the requirements of organic agriculture but which are not certified’ (IFOAM 2019). Marchand and Guo (2014) demonstrate the environmental contribution of non-certified organic farming. This study has several elements which helped farmers learn and practice the requirements of certified organic agriculture such as ancestral knowledge,

institutional support through technical assistance, and experiments which strengthen environmental sustainability. This thesis did not collect data on farming techniques beyond certification, but it did collect data on the education and professional experience of those growing produce for the case studies. Unlike Marchand and Guo (2014), the data from this study shows that growers of non-certified case studies do not come from farming families and have limited education, professional experience or technical assistance in organic certification requirements.

In the case of Future Farms, the head grower learned to grow vegetables in her own allotment. To grow at a commercial scale, she has become a member of the Organic Growers Alliance, a professional organisation which provides advice and support through a monthly magazine and online chat rooms. In the case of Green Isle Growers, the only supplier interviewed reported that he learned organic farming by managing a kitchen garden in Dorset for a year. Afterwards he purchased his land where he has been growing fresh produce since 2012. This demonstrates no formal training in organic standards, experience in a certified organic farm nor technical assistance. In contrast, some growers in certified case studies are both trained in organic farming and have experience in certified organic farms. For example, Canalside's head grower completed the Biodynamic apprenticeship programme and worked in several certified farms before working at Canalside. Similarly, Growing Communities' Dagenham Farm head grower completed the Soil Association apprenticeship.

It is not the aim to doubt the motivations and good faith of non-certified case studies and suppliers. The interviews evidence that they care for the social, economic, and environmental sustainability of their enterprises and farms. The aim is to account for the informality from which some growers approach the learning of sustainable horticulture in the UK. Non-certified case studies are likely to lack knowledge and experience of organic standards and

therefore it cannot be assumed that the produce these enterprises trade achieves the same level or type of environmental sustainability as certified produce.

It could be argued that the fact that they have not participated in formal learning does not mean they do not hold the knowledge necessary to achieve environmental sustainability in the production practices. Indeed, the agroecological movement calls for the recognition of all knowledges as important, from those that are constructed from scientific research to those that are constructed through the practice (Coolsaet 2016). However, such knowledge is constructed and strengthened through the collaboration between farmers and organisations that foster networks of knowledge (Anderson et al. 2019). Although in the case of non-certified case studies they belong to networks such as the OGA or the box scheme itself (as it is a growers' enterprise), there is no evidence these growers use these networks as opportunities to build and strengthen knowledge, especially through specific programmes as shown by Coolsaet (2016) and Anderson et al. (2019). Moreover, their condition as urban dwellers who moved to the countryside to farm does not allow them to access ancestral knowledge either. Therefore, it is legitimate to question their learning process and also not to assume their practices are environmentally sustainable simply because they belong to an AFN as pointed out by Born and Purcell (2006) and Tregear (2011).

As such there are two practices which have different outcomes. One is the trading of organically certified produce which is based on indicators that have been accepted as evidence of environmental sustainability. The second is the trading of non-certified produce whose positive environmental impact cannot (currently) be demonstrated (although this does not mean environmental benefits are not present- simply that they are not easily evidenced). AFN literature establishes a binary in which AFNs trade food that has a positive impact on the environment and conventional systems trade food that has a negative impact on the environment (Hinrichs 2000, Tregear 2011, Forssell and Lankoski 2014). The evidence

presented here shows the hybridity in the practice of this AFN characteristic. Six case studies adhere to the AFN side of the binary whilst two are somewhere in between the AFN and conventional practice. Further research could determine that non-certified case studies have a higher or lower environmental impact. Or that the suppliers of a box scheme have different levels of knowledge and experience in organic certification standards. But, within the data collected in this research, it cannot be assumed that all case studies contribute equally to environmental sustainability.

6.3.2 Reduced distance between producers and consumers (Local Food)

Reduced distance between producers and consumers is the AFN characteristic that encompasses the different meanings of local food. Here only physical distance will be discussed. Supply chain distance will be discussed under new forms of market governance and the research did not collect data on information distance. Local food can be defined as food that does not travel far from the place it is produced. The concept of food miles questions how far food travels before it is consumed and how it travels (Lang 2006). The development of carbon counting methodologies further develops food miles by focusing the discussion on carbon emissions due to transport (Coley et al. 2009). However, as will be discussed in Chapter 7 the concept of food miles has been challenged with studies demonstrating the complexity of measuring food miles and that AFNs do not always reduce carbon emissions. Nevertheless, food miles is important for case studies as it communicates the aim to reduce carbon emissions. This importance is demonstrated in the following mission statements excerpts:

'By prioritising local produce, we keep food miles to a minimum.' COFCO

'To produce food in the village of Martin for sale to the people who live there' Future Farms

'We believe that every person has the right to produce and consume healthy food. This is why we... provide... local veg bags.' Green Isle Growers

'We source food sustainably...enabling supply chains to be shortened and communities to source increasing amounts from closer to where they live. In practice this means we source our food as locally, seasonally and directly as possible.' Growing Communities

'It's not our job to tell you what to eat, but we do inform, encourage, and nudge customers towards eating seasonally and locally.' Riverford

AFN literature reports that food traded through AFNs has less food miles and therefore is more sustainable than food traded through a conventional food system which has more food miles (Renting et al. 2003, Tregear 2011). However, the way in which case studies practice local food shows a range of practices within this dichotomy. The highest level of local food is accomplished by community enterprises because their produce is sourced from their own production and therefore it travels the least before it is consumed. This suggests a high level of local food which contributes the most to environmental sustainability in terms of food miles, and thus aligns with the AFN side of the binary. A mid-level is accomplished by grower enterprises. Their local produce is sourced from member growers local to the place where it is consumed. However, since they complement their offer with produce from a wholesaler, which means not local, the level of local food is not as high as community enterprises. Thus, suggesting a mid-level of environmental sustainability in terms of food miles is accomplished. This means they are further from the AFN side of the binary. Finally, a lower level of local food is accomplished by trade enterprises. Their sourcing method is tiered and volume sourcing which means that produce travels different distances from the place it is consumed. This suggests that also their contribution to environmental sustainability in terms of food miles is lower. As such, trade enterprises are closest to the conventional side of the binary.

This analysis evidences the hybridity in the practice. Box schemes and CSAs implement local food in three different ways: high medium and low. Although this way of measuring their level of local food may seem unhelpful in light of the challenges to food miles, it demonstrates how case studies shape their practices according to the way they source and the

sustainability values they believe and practice. This allows the research to understand at greater depth the decisions case studies make when implementing their operations and practicing their values.

AFN literature also reports that local food contributes more to the economic sustainability of farmers because they can capture a greater share of the value of the food they produce whereas the conventional food system can exploit farmers (Murdoch et al. 2000, Forssell and Lankoski 2014). This research was not able to establish how much of the value is captured by growers. However, it was able to establish, for some case studies, the monetary value of local food purchased. Local food has been analysed through the physical distance perspective.

Thus, it can be defined as one that does not travel more than 48.2km (30miles) from the place of production to consumption. Based on this measurement, Growing Communities' annual purchases of local food amount to approximately £40,000. In comparison Green Isle Growers' annual total purchases are approximately £9,000 of which the majority is local food. Therefore, although Growing Communities has a low level of local food, it trades a greater volume and value of local food than Green Isle Growers who chooses a mid-level of local food. However, when Growing Communities' purchases of local food are compared against Canalside's total sales revenue, who chooses the highest level of local food, the latter trades more volume and value of local food than the former. But it is important to remember that whilst Growing Communities can keep on growing its customer base, Canalside cannot.

These results evidence that enterprises choosing a low level of local food have more potential to sell more local food than enterprises that have a high and medium level of local food. This is because the business size of enterprises with a low level of local food is less limited as explained in Chapter 5. More research is needed to evidence if enterprises with a high and medium level of local food capture or help their suppliers capture a greater share of the economic value. This is likely in community enterprises as they sell directly to consumers

therefore capturing all the economic value and in grower enterprises as they keep operational costs low to give most of the value to member growers. But despite this, enterprises with a low level of local food have more potential to buy more food from local producers than enterprises with a high and medium level of local food.

Another perspective is the produce bought directly from non-local farmers. Growing Communities and Canalside have been compared based on their purchases of local food. But, if the total food purchased directly from UK growers by Growing Communities is compared to the total food traded by Canalside, Growing Communities exceeds Canalside by approximately £100,000. This means that although Growing Communities has a low level of local food, they offer a bigger market for their growers, some of which are local and non-local. Therefore, building bigger markets, at any distance from the AFN, should be regarded as important as local food because keeping organic growers in business is at the heart of a sustainable food system. Moreover, by trading more UK organic produce Growing Communities contributes to keeping more acreage of land under organic production which contributes possibly more to environmental sustainability than low food miles as it will be discussed in Chapter 7.

As such it is important to highlight the difference between capturing the greatest value and limited and less limited markets. Capturing the greatest value means that of the total price the farmer keeps the greatest share. Limited markets are those where the possibilities of trading are limited. Instead, less limited markets provide greater possibilities for trading albeit as long as values are being met. Enterprises with a high and medium level of local food may help farmers capture most of the value, but in a limited sized market. That is, farmers keep most of the money but sell smaller quantities. Instead, enterprises with a low level of local food may not allow farmers to capture as much of the value, but in a less limited market they can sell more volume. In other words, farmers may not keep as much money but sell more

quantity. This finding shows the complexity in claiming that local food has a positive impact in farmers' economic sustainability. Capturing most of the value may be as important as selling in volume. This also depends on how the farm business is arranged. For example, for a >14.1 ha farm growing a narrow range and using mechanised methods it is be more appropriate to sell in volume. Whereas for <4ha farm with a wide range of crops may be more appropriate to sell to limited markets because their production is limited. As such, more research is needed in establishing how capturing value and selling in larger volume helps farmers to remain financially sustainable and how this relates to their production methods.

The AFN literature establishes the binary that AFNs contribute to the economic sustainability of farmers whereas the conventional food system exploits farmers. The research found two ways in which local food contributes to the economic sustainability of growers. First, growers sell small quantities of local food and capture greater value. The second is that growers sell larger quantities of local and non-local food and may capture less value. These approaches to economic sustainability evidence the hybridity in practice. Whilst both are conducive to economic sustainability, the latter is closer to the conventional system, by buying in volume and beyond the local area, than the other. A such local is as strategy that can have a range of outcomes as argued by Born and Purcell (2006).

6.3.3 New forms of market governance (fair trade)

This AFN characteristic encapsulates practices that aim to redistribute power in the supply chain, ensure a fair pay for farmers and shared economic risk (Forssell and Lankoski 2014). These aims are included in the concept of fair trade. The mission statements of the case studies evidence the importance of fair trade practices to them as shown in the following excerpts

'The bag scheme is set up to provide a reasonable income for the local growers really.'
Green Isle Growers representative.

'Everything Riverford stands for is about making sure that the growers receive a fair price.' Riverford representative.

'We basically want to trade with our farmers in such a way that we pay them enough that they can have a decent living.' Growing Communities representative.

Fair Trade is a label given to fairly traded products exported from poor to rich countries. It is a way to improve the living conditions of poor people in poor countries and a challenge to the unfairness of international trade (Renard 2003). Despite this focus on poor countries, case studies use the term fair trade to describe commercial relationships between the case studies and their suppliers based on fairness. Therefore, although there is a difference in the origin of products, the basic principles of fair trade apply to both imported and domestic products.

Renard (2003:90) establishes that the Fair Trade label requires buyers to:

- Direct purchase.
- A price that covers the cost of production and a social premium to improve conditions.
- Advanced payment to prevent small producer organisations from falling into debt.
- Contracts that allow long term production planning and sustainable production practices.

Of these requirements the research identified direct purchase and price that covers the cost of production (fair price to farmers) in the interviews. The following sections will discuss how these two requirements are practiced by case studies.

6.3.3.1 Direct Purchases

In the context of the Fair Trade label direct purchases provides farmers with market access and helps them keep a greater proportion of the selling price of a product (Renard 2003).

Direct purchasing is important because produce is imported from poor countries to be transformed into value added products in rich countries as it is the case with coffee, cacao or

sugar. Therefore, for Fair Trade it is important that food processors in rich countries purchase directly from farmers in poor countries.

Differently to the Fair Trade label, AFNs aim for farmers to sell directly to consumers but with the same purpose of helping producers capture most of the value (Ilbery and Maye 2006). Therefore, AFNs are short food supply chains (SFSC) because they have the least amount of intermediaries between producers and consumers (Kneafsey et al. 2015). Thus, the binary proposed by the AFN literature is that SFSCs help farmers capture most of the value whereas the conventional systems rely on several intermediaries which take away economic value from the farmer (Tregear 2011).

But analysing trade only through the direct sales lens is misleading and misses the complexity and therefore the hybridity in the practice. Chapter 4 showed that only Future Farms and Canalside trade through direct sales and that Exeter VegShare buys only from one supplier. These are the simpler supply chains in the sample because they involve none or one intermediary for all the products included in the vegetable bag. But the rest of the case studies are more complex because they aggregate produce from different types of suppliers with different numbers of intermediaries: produce sourced from the case studies' own production involves no intermediaries; produce sourced directly from growers has one intermediary; and produce sourced from wholesalers has several intermediaries depending on the product.

Sourcing from different suppliers adds several layers of complexity to the idea of number of intermediaries involved. A first layer is that each product in the vegetable bag has different numbers of intermediaries. For example, Growing Communities' organic Fair Trade bananas are aggregated by a cooperative, imported by a wholesaler specialising in bananas and then sold to another wholesaler who in turn sell them to Growing Communities. But equally apples are bought directly from the farmer. A second layer is how case studies use

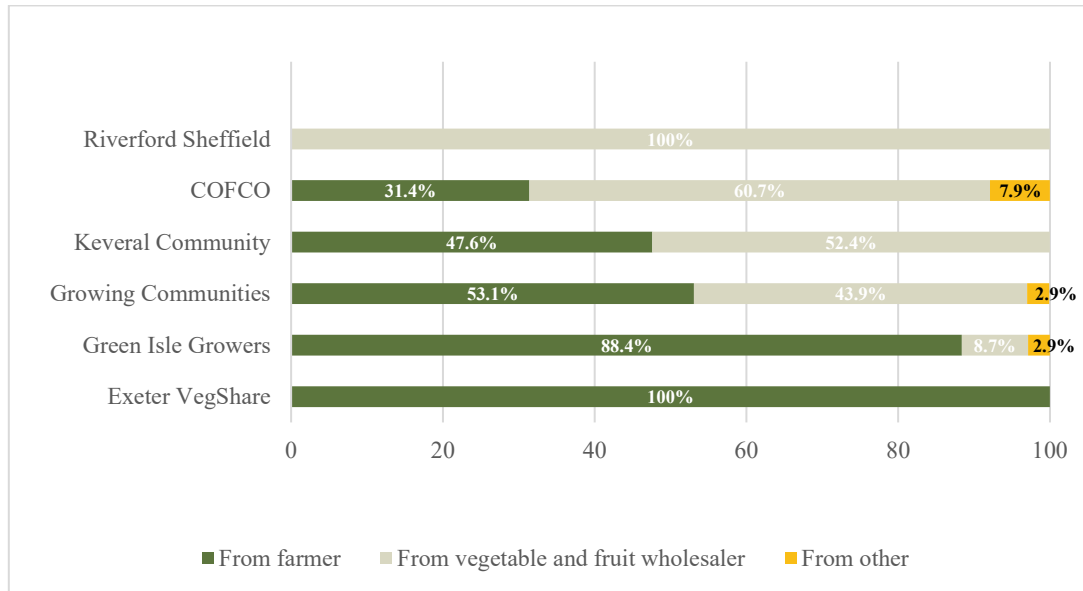
wholesalers. For example, Green Isle Growers only buys UK produce whilst COFCO buys UK and non-UK produce therefore increasing the number of intermediaries. A third layer is seasonality. Case studies buy from different suppliers, different types of produce and different amounts depending on the season. During the summer months most produce comes directly from growers whereas in the hungry gap most produce comes from wholesalers. Wholesalers also change suppliers throughout the year. For example, when the courgette season is over in the UK, courgettes are sourced from Italy, Spain, France and Morocco through different European wholesalers and cooperatives depending on availability. Finally, a fourth layer is that wholesalers also buy directly from UK growers who sometimes also supply the box scheme itself.

Therefore, whilst direct sales happen in box schemes and CSAs so do direct purchases and purchases from wholesalers. As such, all must be considered in the analysis of how AFNs source and it should not be assumed that all box schemes and CSAs practice direct sales. This is also confirmed by data from the survey where 43% of the CSAs and 83% of the box schemes either just buy produce or grow and buy produce, and 69% of those who buy do so from wholesalers. This analysis also shows that trying to count the number of intermediaries in a box scheme or CSA supply chain is futile because of the complexity of the supply, the different products included in a bag, the number of suppliers involved in a box scheme and the seasonal changes during the year.

The case studies that buy produce provided a breakdown of the money paid to each supplier. Figure 6.1 compares the percentage of total purchases spent on direct purchases from farmers (including livestock and horticulture), vegetable and fruit wholesalers, and other products (like food suppliers such as processors, wholesalers of processed food, craftspeople, etc). The top three case studies in the diagram purchase less than half of their total purchases directly from farmers and the bottom three purchase more than half of their total purchases directly

from farmers. Future Farms and Canalside are not included in the diagram because they do not purchase produce, but since they source from their own production 100% of it is directly from the producer.

Figure 6.1: Distribution of total purchases spent on supplier type



Source: Author

As discussed before, AFN literature proposes a binary where direct purchases are crucial to AFNs whilst conventional food systems rely on supply chains with several intermediaries. However, three practices were found which demonstrate hybridity. The first is direct sales implemented by Future Farms and Canalside; the second is purchasing more than half directly from growers implemented by Exeter VegShare, Green Isle Growers and Growing Communities; the third is purchasing less than half directly from growers implemented by Keveral Community of Growers, COFCO and Riverford Sheffield. As such community enterprises implement direct sales and grower and trade enterprises implement direct purchases. Given this finding it could be suggested that direct purchases are more conducive to the financial sustainability of box schemes and CSAs as the three most commercially driven case studies purchase directly from farmers. In terms of the financial sustainability of farmers, enterprises that purchase less than half directly from them must not be seen as

hurting their financial sustainability because, as explained in the local food section, the volumes purchased from farmers may be greater.

6.3.3.2 Fair pay to farmers

The second Fair Trade requirement is about paying suppliers a price that covers the cost of production and a social premium to improve conditions. This can be referred to as fair pay to farmers. The research was not able to establish if farmers are paid a fair price due to the challenges in evidencing fair pay. As such, it is not able to establish the hybridity in the practice and how it contributes to the economic sustainability of growers. However, due to its importance for box schemes and CSAs, and for AFNs in general, the section will discuss the current practice of measuring fair pay for farmers, its definition, challenges and possible solutions.

The research found that case studies use two indicators to evidence they are paying farmers a fair price. Growing Communities, COFCO and Exeter VegShare reported that they achieve fair pay by not negotiating prices and abstaining from ‘driving down prices’ which is when suppliers are forced to lower their prices. Instead Riverford, Green Isle Growers and Keveral Community negotiate prices as part of the crop plan process. In the case of Green Isle Growers and Keveral, price negotiation is unusual because growers are suppliers and members of the box scheme. Therefore, they must balance their individual economic interests and those of the box scheme. Riverford is different. The research only interviewed one Riverford supplier, the South Devon Organic Producers (SDOP). This is a cooperative set up between Riverford and farmers local to their headquarters. Together they also agree on an 18-month crop plan and prices which fluctuate slightly throughout the 18 months. The relationship between Riverford and the cooperative may be unique to the rest of Riverford’s

suppliers. But because this is the only evidence available it will be assumed that Riverford crop plans and negotiates prices with all its suppliers.

According to the World Fair Trade Organisation (WFTO) ‘the basis of economic transactions within Fair Trade relationships takes account of all the costs of production, both direct and indirect’ (WFTO and FLO, 2009:7). Most interviews with growers did not evidence a process of setting up prices based on the cost of production neither for those who do not negotiate, nor those who do. Instead, most growers reported that they set up prices based on wholesaler’s price lists. This does not mean that growers do not have economically viable businesses, rather it shows that they are only aware of their overall costs and the revenue they need to cover them. Also, growers do not match their prices with those of wholesalers, but rather they are used as a benchmark to set prices. SDOP was the only supplier that reported that for the first time the cooperative had gathered cost of production data from all its growers to negotiate better prices with Riverford.

Negotiating or not hands over the responsibility of setting a price to the grower. The grower either charges a price which is not challenged by the enterprise or the grower proposes a price to be negotiated with the enterprise. But, given that growers do not account for cost of production when setting up prices, as mandated by the definition of fair trade, the indicators used by case studies to measure fair pay to farmers fail to evidence fair pay.

Lack of evidence could be resolved if growers set up their prices based on costs of production and provided evidence of doing so. However, assigning this responsibility solely to growers is unfair due to the lack of knowledge and training in calculating fair prices and collecting data. A methodology is necessary to calculate fair prices. Bronkhorst, (2016:4) proposes a methodology based on three elements:

1. Calculation of living income required
2. a. Calculation of production, marketing, storage and other costs,
b. Production in kg per target crop
3. Calculation of price/kg that will lead to a living income

UK growers could use the Living Wage as the living income required. But data on the costs of production is more challenging to gather because it must consider aspects such as crops, production techniques, labour, size of the farm and market prices. The challenge in gathering this data is not only its complexity but also that growers are not always the best at recordkeeping as noted by the 2014 Food Hub Benchmarking study and by the following quote:

'Some of them (farmers) are not very truthful or they just don't know (their costs) because they don't keep good enough records...and it is those ones that sort of estimate, they are the ones that really are not doing very well anyway.' Riverford supplier.

6.3.4 Strong relationships

Strong relationships refer to the bond between producers and consumers which lead to stronger participation in and knowledge of AFNs. The following quotes demonstrate the importance of strong relationships for the case studies

'For me a box scheme was always about... having a direct relationship to their customers.' Keveral Community representative.

'A personal relationship with the customers is really really important.' Riverford representative.

'We're trying to obviously to help customers to use the produce and cement the relationship with us really.' Riverford Sheffield representative.

'We can... (resolve problems with growers) because it is a good relationship' Growing Communities representative.

As discussed previously, box schemes and CSAs not only source from their own production, but also directly from growers and wholesalers. As such, strong relationships in AFNs are not only between producers and consumers, as suggested by AFN literature, but amongst all

actors in the supply chain, as suggested by VBSC literature. Since this research includes case studies with all three types of suppliers, this section will analyse relationships between the actors identified in Chapter 5. These are the enterprise (composed of staff), growers, wholesalers and customers.

6.3.4.1 Relationships between case studies and their growers

Growers are either employed by or trading with the enterprise which changes the nature of the relationship. The nature of the relationship between employed growers and enterprises is that of employee and employer. Employed growers have a strong relationship because their livelihood depends on the enterprise. In the case of community enterprises, growers perform both manufacturing and merchandising roles making them essential for the operations. The nature of the relationship between growers trading and the enterprise is that of buyer and seller. These growers build strong relationships through regular trade. Growers and enterprises communicate weekly about availability, place orders and fix problems when they arise. The regularity of purchases also creates interdependence and therefore strong bonds. Farmers' income partly depends on the regular purchases of the enterprise and the enterprise depends on the on-time delivery of the right quantity and quality of produce. It is worth highlighting that in grower enterprises the relationship is even stronger as the enterprise is both operated and supplied by growers.

6.3.4.2 Relationships between growers and customers

The distinction between growers that are employed and growers trading with the enterprise also changes the nature of their relationship between the box scheme or CSA and its customers. Growers that are employed build strong relationships with customers through food production. They are responsible for coordinating volunteering tasks and work side by side with customers. However, in the case of Riverford customers are not involved in food

production and therefore there is no relationship with growers. The research did not find evidence of strong relationships between growers supplying the case studies and customers. Their relationship is limited to the information communicated through the vegetable bag newsletters, websites and social media. However, in grower enterprises, growers supplying the box scheme interact with customers due to their involvement in the running of the enterprise. Growers manage subscriptions and deliver to customers. But in comparison with employed growers, the relationship is not as strong.

6.3.4.3 Relationships between case studies and customers

Future Farms, Canalside and Growing Communities make a deliberate effort to build strong relationships with customers. They have invested in infrastructure and staff so that customers can get involved in food growing. Customers can also get involved in the management of these enterprises. In comparison the rest of the case studies build weak relationships with customers as their interactions are limited to the trading of food.

6.3.4.4 Relationships between case studies and wholesalers

It could be assumed that the relationship between case studies and wholesalers is characterised by arm's-length relationships, where none of the parties feel any obligation or commitment towards the other (Stevenson and Pirog 2008). Yet, the research found that there are strong relationships between case studies and wholesalers. Evidence of this is the interdependence of regular purchases from case studies and on time and correct deliveries from wholesalers. One relationship has been going for almost 20 years with a wholesaler supplying 51 weeks per year. However, some interviews highlighted how power influences the relationships between case studies and wholesalers. When a wholesaler has a mix of small customers, such as independent shops, small box schemes or CSAs, and large customers, such as supermarkets and national box schemes, it tends to prioritise bigger customers. As

such, it is challenging for small box schemes and CSAs to access the right variety, quantity and quality of produce. This was referred to as the ‘pecking order’ where big box schemes such as Growing Communities, COFCO and Riverford are high in ‘the pecking order’ and therefore can access the produce they need thus having good relationships with wholesalers. Whereas small box schemes and CSAs are low in the ‘pecking order’ and therefore have trouble accessing produce and thus poor or weak relationships with wholesalers.

The binary proposed by the literature is that AFNs foster strong relationships between producers and consumers whilst conventional food systems are devoid of people and thus without relationships. But since box schemes and CSAs build relationships with all actors in the supply chain, the hybridity in the practice is the relationship they prioritise based on their operational characteristics.

The relationship case studies prioritise impacts on their commercial activity. Community enterprises prioritise strong relationships with customers. This lowers their commercial activity because strong relationships with customers require limited enterprises which create a sense of community, as shown in Chapter 5. For grower enterprises their relationship with growers is critical. But this also limits their commercial activity because, as explained in Chapter 5, the enterprise limits itself to the produce available from member growers. Finally, trade enterprises prioritise strong relationships with both their growers and wholesalers therefore ensuring a consistent supply of produce throughout the year. In this way there is potential to expand the amount of produce available which allows these enterprises to expand their customer bases and therefore increase their level of commercial activity. These results show the hybridity in the practice. Whilst there are enterprises that prioritise strong relationships between producers and consumers there are also enterprises that prioritise strong relationships with suppliers. Both have the potential to contribute to economic sustainability. However, it is their commercial behaviour that determines the extent to which

such relationships contribute to economic sustainability as demonstrated by Future Farms and Canalside.

Strong relationships also contribute to social sustainability but in different ways depending on the relationship the case study prioritises. Prioritising strong relationships with customers contributes to social sustainability by improving customer's health through food growing. It improves mental health and social interactions, and can reduce stress and reliance on medication (Carney et al. 2012, Schmutz et al. 2014). Prioritising strong relationships with growers ensures the continuation of their farming business. This has a social impact because they generate jobs and contribute to the local economy. Moreover, sustainable food production enhances biodiversity and crop diversity, both essential for food security. (Forssell and Lankoski 2014).

Renting et al. (2003) include farm shops, farmers' markets, roadside sales, pick your own, box schemes, home deliveries, mail order and e-commerce in their definition of face-to-face short food supply chains (SFSC). Here customers purchase produce directly from the producer through a face-to-face interaction and through it they build a strong relationship. This section has analysed more in depth the relationships between producers and consumers in box schemes and CSAs to differentiate them from the rest of the AFNs proposed by Renting et al. (2003). The nature of the relationship in farmers' markets, roadside sales and pick your own is that of buyer and seller. In this situation there is potential to form relationships that are deep, reciprocal, intimate and vibrant but equally manipulative or exploitive (Tregear 2011). Here the interaction is at the point of purchase where money is crucial and when these behaviours can manifest. Instead, in box schemes and CSAs, customers create a strong relationship with producers outside a context of monetary exchange because that has already been established through their subscription. For those that involve customers in food production, they create a space for growers and customers to do something

together, like for example planting a crop. As such, the nature of the relationship is different from other AFNs which does not mean it is free of conflict. Moreover, in the context of CSAs where customers are sharing the risk with the enterprise, it may be that the relationship is stronger because the customer is invested in the success of the CSAs. As such, it could be argued that if positive behaviours are exhibited, relationships between producers and consumers are stronger in box schemes and CSAs than in other AFNs.

6.3.5 Labour rights

Forssell and Lankoski (2014) observe that there is a lack of clarity in the literature of whether labour rights are part of AFNs. For example Allen et al. (2003) observes that despite labour rights being part of the discourse of AFNs in the 1960s and 1970s, current AFNs ignore them and rather focus on food access, urban community empowerment and support for small farmers. But some academic literature has linked labour rights with AFNs. In a conceptualisation of sustainability in AFNs Blay-Palmer and Koc (2010) include fair wages, working conditions, terms of employment and benefits. The VBSC framework proposes that value chains should implement strategies to guarantee the welfare of those involved in the AFN (Stevenson and Pirog 2008). Levitte (2010) reviews the literature on farm labour in AFNs. Dupré et al. (2017) studies job satisfaction of farm managers in organically diversified market garden farms. Finally, labour rights in AFNs has been the interest of campaigning organisations. For example, Sustain in the UK includes them in their sustainable food criteria (Ilbery and Maye 2005) and has published several reports on labour rights in the food industry (Hird 2015, Food Reserach Collaboration and Sustain 2016, Sustain 2018). Levitte (2010) argues that the slow adoption of labour rights is due to the lack of consumer interest, a focus on the farm owner rather than on farm workers and the fetishism of commodities which lead consumers to place value in the product rather than on the social relationships that create the product.

This section analyses labour rights to contribute to existing research and highlight their importance to AFNs. However, since this research is on box schemes and CSAs, the analysis is based on those employed by the case studies and not on farmers which the usual focus of research. The section will analyse fair wages to employees and job quality which have not been discussed either within the AFN literature on labour rights.

6.3.5.1 Fair wages to employees

Paying fair wages to employees is a goal case studies aim to fulfil. This is evidenced in the following quotes:

'The staff that we employ or work with are getting a fair wage.' Riverford Sheffield representative.

'We were the first food business in Cambridge to be Living Wage accredited.' COFCO representative.

'People should get the equivalent of whatever the minimum wage is nationally for the work they're doing here, some sort of benchmark to guide us to what is fair.' Keveral representative.

Paying fair wages has been a concern in UK society because unfair wages were leading to in-work poverty. This is when an employed person fails to earn the income necessary to sustain a decent standard of living (Wills and Linneker 2014:184). To relieve in-work poverty the government established the National Minimum Wage (NMW) in 1998, but it is argued that the level was not set high enough. In 2011 the UK Living Wage rate was introduced. It sets a minimum wage which reflects the 'local costs of living and the real costs of life' (Wills and Linneker 2014:183). A London Living Wage was also established to account for the higher costs of living in the capital.

The research collected information on wages from the 8 case studies, a total of 65 wage records. Also, the survey collected information on wages from 19 enterprises, a total of 98 records. Information was collected in two phases. First through the survey (March to June

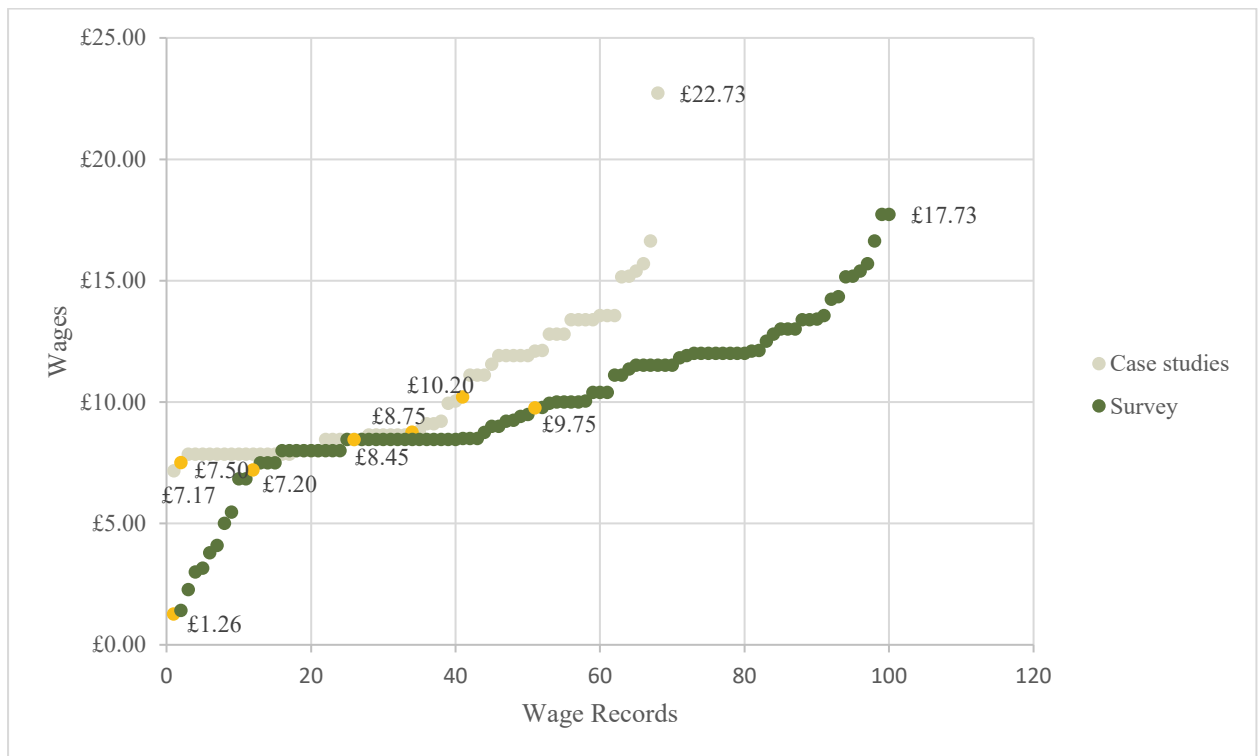
2017) and then through the case studies' interviews (January to March 2018). Wages were converted to hourly rate to compare them with the NMW and the Living Wage. But given that wage records were collected in two periods, the survey wages were compared with the NMW and Living Wage for 2016/2017 and the case studies' wages with the NMW and the Living Wage for 2017/2018.

Average results show that respondents are paying their employees above the NMW and the Living Wage. The average wage amongst case studies is £10.36 per hour. This figure is above the NMW (£7.50), the UK Living Wage (£8.75) and the London Living Wage (£10.20). The average wage amongst survey respondents is £9.90 -so above the NMW (£7.20), the UK Living Wage (£8.45) and the London Living Wage (£9.75). Averages are also above the Living Wage when disaggregated by region. UK case studies' average wage is £9.30 and UK survey respondents' £8.74, both above the UK Living Wage. London case studies' average wage is £12.88 and London survey respondents £12.67, also above the London Living Wage. Wages were also analysed between box schemes and CSAs. The average wage of box schemes within the case studies is £10.36 and within the survey £10.31, both above the UK Living Wage. The average wage of CSAs within the case studies is £10.28 and within the survey £8.31 -the first above the UK Living Wage and the second below.

Despite the average wages, the research found that some employees are below the NMW. Although on average the samples pay above the Living Wage, when an analysis of the range of wages in both case studies and survey respondents is performed, the results show that there are some employees of box schemes and CSAs that earn below the NMW. Figure 6.2 shows the range of wages for case studies' records and for survey's records.

The figure plots all the wage records found in the case studies and survey. The case studies are represented in light green and the survey respondents in dark green. The labels identify the highest and lowest wages paid and the NMW, living and London Living Wage (yellow dots). Figure 6.2 shows that only one wage record or 1.7% of the case study sample (dark green) is below the NMW but, this increases to 11 records or 11.1% of the survey sample (light green). Therefore, between the case studies and the survey there are 12 wage records below the NMW. Of these, 5 records are from box schemes and 7 from CSAs and within these 10 enterprises source from their own production. These results show that wages below the NMW are more recurrent within enterprises manufacturing and merchandising. However, these results must not be taken as definite as a formal significance testing was not applied because the sample was not big enough.

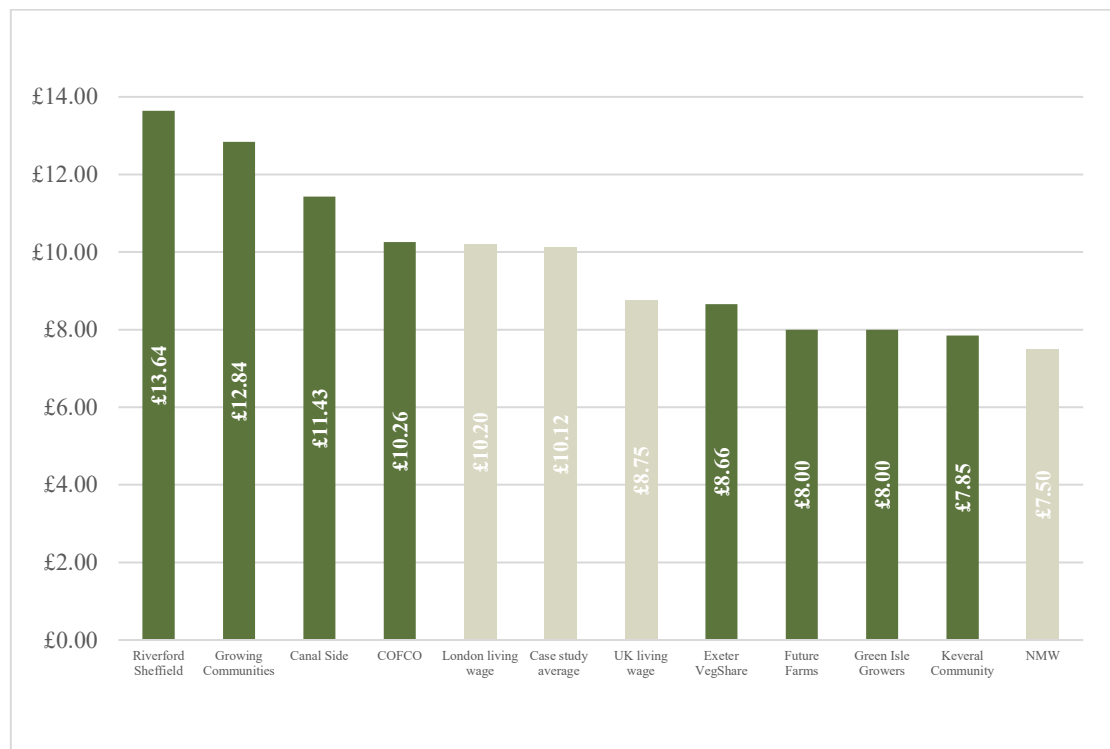
Figure 6.2: Range of wages of case studies' records and survey respondents' records



Source: Author

Further research could collect the wage records required to apply a statistical analysis and corroborate these results. Although results are not conclusive and a substantial amount of case studies and survey respondents pay above the Living Wage (75.8% in case studies and 44.8% in survey participants), results evidence that some enterprises pay above the NMW and others below, therefore questioning if the sector does pay fair wages to every employee. Research on fair wages has focused on farmers. Studies have confirmed self-exploitation in CSAs (Cone and Myhre 2000; Jarosz 2008; Lass et al. 2003 cited in Galt 2013) . Self-exploitation occurs when a there is not an appropriate economic return to the farmer for the activities performed. The results presented here are different because they not only include farmers but also other workers. However, they coincide in that those involved in AFNs are not always remunerated with a fair wage. No data from conventional UK food industry were analysed but it can be assumed that there too not all workers are payed above the Living Wage as reported by Tait (2015) and Sustain (2019).

Figure 6.3: Average wages of case studies



Source: Author

The research also found that case studies that prioritise commercial behaviour pay better wages on average than the rest of the case studies, except for Keveral Community. Figure 6.3 shows the average wages per case study and compares them with the NMW, UK and London Living Wage for January to March 2018 (in light green). Riverford Sheffield, Growing Communities, Canalside and COFCO on average pay employees above the London Living Wage, the case study's average, the UK Living Wage and the NMW. They prioritise commercial behaviour. Enterprises that give commercial behaviour a low priority are below these benchmarks, but they are above the NMW. Keveral who prioritises commercial behaviour pays the lowest wages on average of all the sample. These results are similar to Guthman and Schreck's (cited in Levitte 2010:78) study of farm workers. They found that large organic farms pay higher wages and provide more benefits to farm workers than small organic farms.

Blay-Palmer and Koc (2010:230) propose that 'fair working conditions and terms of employment are critical for everyone' working in AFNs. Opposite to this idea is the description of the Californian agricultural system by Allen et al. (2003) which relies on low waged migrant labour. As such, the binary is that AFNs provide fair working conditions, which would include fair wages for all employees involved in AFNs, whereas the conventional system provides unfair working conditions and therefore low wages. The results show the hybridity in the practice. Although the results show that on average box schemes and CSAs pay above the NMW, the research also found that a small percentage of employees are paid below this benchmark. Moreover, differences are also found between case studies. Four of them pay above the UK Living Wage and the other four below. These results relate to their commercial behaviour. The four case studies paying above the UK Living Wage prioritise commercial behaviour and the four case studies paying below the UK Living Wage

give commercial behaviour a lower priority, except for Keveral. Wages contribute to the economic and social sustainability of the case studies.

Wages contribute in two ways to economic sustainability. Wages above the UK Living Wage impact the economic sustainability of an enterprise because higher wages increase staff performance therefore increasing revenues. The research measured the staff performance through the sales per employee ratio. The ratio uses the full-time equivalent (FTE) which is a labour analysis that adds all the hours worked by all the employees of an enterprise, and divides by a standard work week (NGFN 2014). In this way it is the hours employees work that are counted instead of the number of employees, who can be full-time or part-time.

Employee ratio divides revenue by the FTEs. Results show that staff performance is higher in enterprises that prioritise commercial behaviour (an average of £92,000 per full-time employee) than in enterprises that give commercial behaviour a lower priority (an average of £14,680 per full-time employee). These results are in line with research on food hubs in the US which also found that top performing food hubs pay more for labour than lower performing hubs (NGFN 2014). Another way in which wages contribute to economic sustainability is by lowering operational costs and therefore improving the financial viability of an enterprise. This is the case of Keveral Community which in figure 6.3 has the lowest wages in the sample but in Chapter 4 it shows that it achieves financial viability.

Wages also contribute to social sustainability. The research did not collect data on the social impact of case studies, as such it will rely on existing literature to discuss this topic. The quality of earnings has been linked to individual well-being (Cazes et al. 2015) and household living standards (Cribb et al. 2018). Box schemes and CSAs pay above and below the UK Living Wage therefore contributing to both income equality and inequality. Low wages contribute to income inequality because they decrease the income of the poor whilst high wages have the opposite effect (Jack and Jordan 1999, Cribb et al. 2018). Income

inequality contributes to more unequal societies where problems such as mental illness, violence, imprisonment, lack of trust, teenage pregnancy, drug abuse, and poor educational performance of school children are more common (Wilkinson 2018). Contributing to income equality is especially important now since there has been an increase in inequality in the UK (Cribb et al. 2018). The research cannot ascertain if box schemes and CSAs employees that earn low wages experience these social problems. Other variables such as household income could balance their economic situation. However, earning low wages makes them more vulnerable.

Beyond economic and social sustainability is the existence of the enterprise which can be threatened by low wages. Low wages make an enterprise vulnerable because they increase staff turnover. This is confirmed by research on farmers leaving CSAs in the US where 34.4% left because their wages were insufficient and 12.5% because they were working too hard for the wage they received (Galt 2013).

6.3.5.2 Job quality

Green et al. (2015) define job quality by a set of characteristics which includes wages, job prospects (the security or insecurity of work and opportunities for promotion), intrinsic job quality (physical and social environment, skill levels, discretion, variety of tasks to be done and required work intensity) and the quality of the working time (how well the job allows the worker achieve work life balance). This section analyses the skill levels in the jobs offered by box schemes and CSAs and their relationship with wages and how these two elements contribute to job quality.

a. Skill levels

Box schemes and CSAs require high, medium and low skill level of work in their operations. High skilled jobs are usually those of managers, professionals and technicians. Medium skilled are jobs in administration support, service, skilled agricultural and other trades. Low

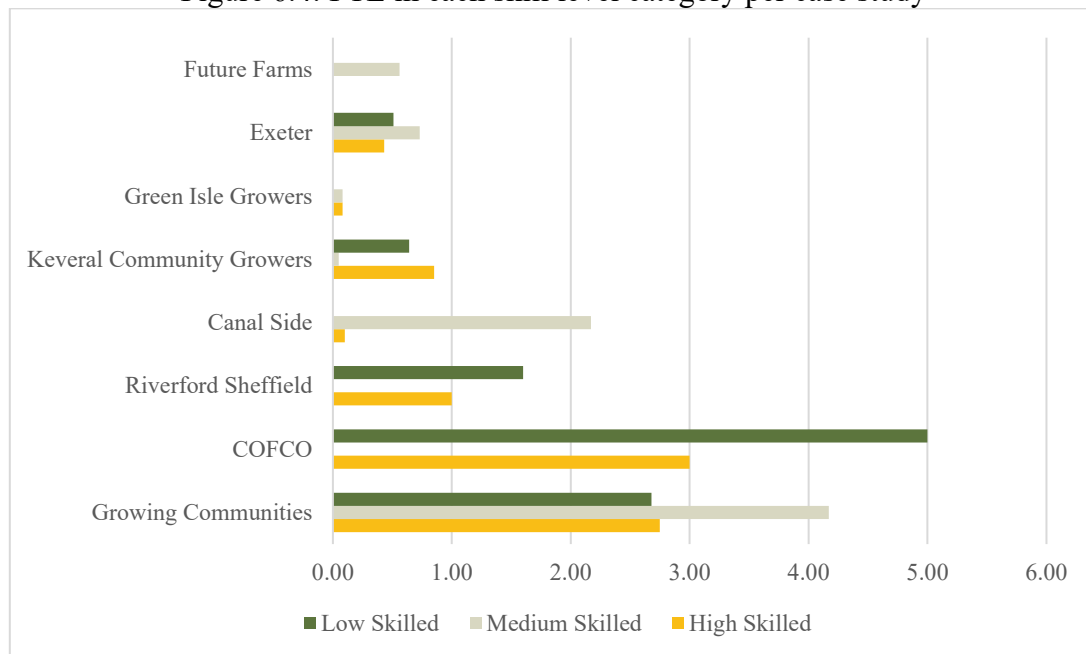
skill jobs are those that involve factory work and basic occupations (Heasman and Morley 2017). The higher the skill needed for a job, the more qualifications or training is required. In case studies high skilled work was identified in positions of management. Examples include directors and, finances and operations managers. Although there is no specific qualification for box scheme or CSA managers, of the eight case studies' managers five have a university degree, two have a masters degree and one has an HNC degree. This suggests that to be a manager or director a university degree is required. Medium skill work was found in administration and agricultural positions. Examples include administrator, head and assistant grower, and finance assistant. No data was collected about the qualifications required for medium skilled jobs nor the level of qualification of the people performing them. However, two head growers completed the Soil Association and Biodynamic apprenticeship programs. This suggest that qualifications may be required for these jobs. Finally, low skill jobs were identified in packing and delivery and seasonal agricultural work. As with medium skill, the research did not collect information about the level of skills required, but the following quote evidences that these jobs do not require a qualification nor experience.

'(Packing and delivery) is unskilled work really. We are not looking for any particular skill set. And it is rare to find people that come with experience in the box schemes because is quite a rare type of business. Obviously full and clean driving license is a pre-requisite.'
COFCO representative.

Evidence of jobs in each skill level per case study is presented in figure 6.4. The figure uses the full-time equivalence (FTE) to measure the amount of work generated in each skill level. The figure evidences that most of the work offered by case studies is low skill. Five case studies offer low skill work and if combined there is a total of 10.4 full-time jobs. This is followed by high skill jobs which seven case studies offer and combined they make 8.2 full-time jobs. Finally, medium skill jobs are the least offered, only found in four case studies and combining a total of 7.7 full-time jobs. Given that all enterprises need low skill work, the

research found ways in which case studies avoid, reduce or improve low skill work. Some case studies avoid low skill work by relying on unpaid labour to perform it. In the case of Future Farms, Canalside and Growing Communities this is performed by customers and the local community. Green Isle Growers relies on growers to perform low skill work. Exeter VegShare relied on volunteer students to do packing, but they eventually became staff. Other case studies structure their operations to reduce low skill work. For example, Canalside asks all its customers to pick up their vegetable bag at the headquarters and pack it themselves. This practice saves packing and delivery jobs which are low skill. Similarly, Growing Communities asks its customers to pick up their bags from a pick-up point instead of door-to-door delivery therefore also saving on delivery staff. Finally, as a franchise Riverford Sheffield only needs administrative and delivery staff, all other tasks such as buying, designing bags and packing are done by Riverford.

Figure 6.4: FTE in each skill level category per case study



Source: Author

Other case studies improve the quality of low skill work. One element that makes packing and delivery work low quality, besides the level of skill, is that it tends to be part-time and to

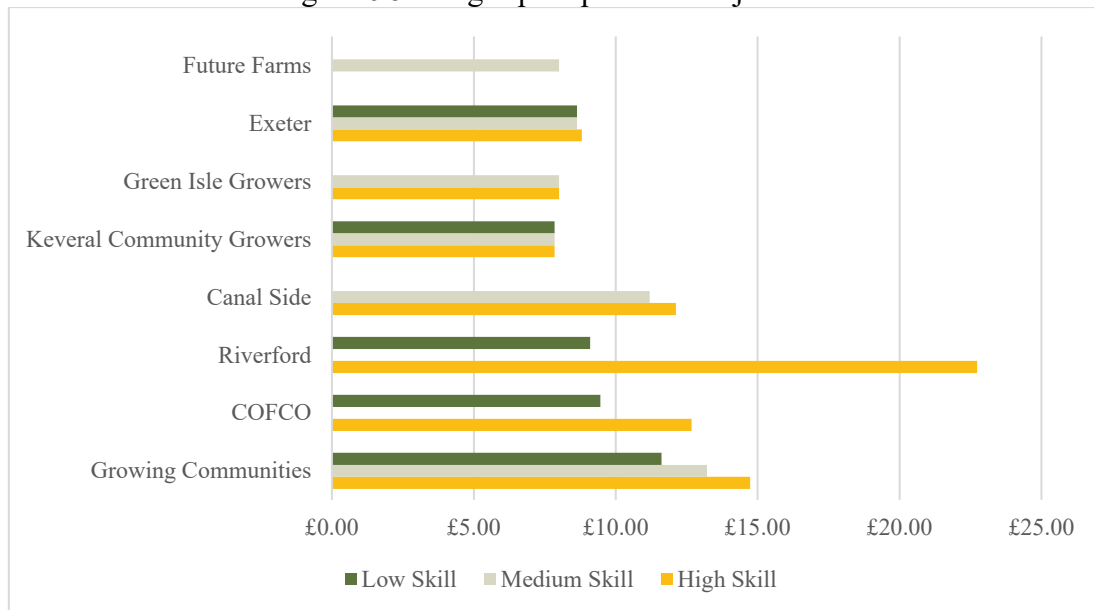
fluctuate depending on the seasons (Green et al. 2015). To reduce the part-time and seasonal nature of this work COFCO has a mix of full-time and part-time pack and delivery staff. Growing Communities has different types of employees, some of which work every week, every other week, and when needed. This arrangement provides the flexibility needed by Growing Communities and opportunities for low skill workers to take time off. Riverford Sheffield offers its delivery staff a fixed annual salary but their work hours change depending on customer demand. Another way to improve job quality is by changing the nature of the work. COFCO's box scheme operators pack the boxes they are going to deliver. In this way there is a mix of tasks to be done in a day, have more autonomy in managing their time and establish relationships with customers as they deliver to the same customers every week. The need for low skill work in the industry lowers the job quality. Evidence has been presented which shows that case studies design their operations to reduce or improve low skill work. As each practice is based on the operations which in turn aligns to the principle value, it is not possible to measure the extent to which job quality of low skill work is improved. Added to this is the reliance on low skill unpaid labour. The data shows there is mutual benefit. Case studies save on staff costs. Customers and local community volunteer in food production and benefits them by improving their physical and mental health, as discussed earlier. Growers perform unpaid labour and this benefits them by providing opportunities to trade their produce. University students volunteer and this benefits them by gaining work experience and eventually a job. Having said this, The US Food Hub Survey and Benchmarking Study warn about over reliance on volunteer labour. More research would be needed to ascertain if the sector over relies on volunteer labour.

b. Skill levels and wages

Case studies pay a range of wages depending on the level of skill of each job. On average case studies pay £12.42 per hour for high skilled jobs, £9.48 for medium skill and £9.33 for

low skill jobs -all above the Living Wage. Figure 6.5 shows the average wages paid by case studies on each level of skill.

Figure 6.5: Wages paid per level of job skill



Source: Author

The section on fair wages to employees concluded that enterprises that prioritise commercial behaviour pay better wages than enterprises that give commercial behaviour a lower priority. The research wanted to analyse how commercial behaviour impacts wages of jobs with different level of skills. To this end average wages for each type of commercial behaviour were calculated as shown in table 6.1. The table shows that on average, the wages of enterprises that prioritise commercial behaviour increase as the level of skill increases. This is not the case in enterprises that give commercial behaviour a lower priority where the highest wage is that of low skill work followed by high skill and finally medium skill.

Table 6.1: Average wages per level of commercial activity

Commercial behaviour	High Skill	Medium Skill	Low Skill
High priority commercial behaviour	£14.02	£10.75	£9.51
Low priority commercial behaviour	£8.40	£8.21	£8.64

Source: Author

A cause for average higher wages in low skill work amongst enterprises that give commercial behaviour a lower priority is the small differences in their salary structure. Salary structure is

‘the organisation of salaries in a company with different rates of pay for different types of job’ (Collin 2007:361). The salary structure of enterprises that give commercial behaviour a lower priority differentiates little or not at all between jobs of diverse level of skills. The pay gap between high and medium skill is 2.2% and between high and low skill is -2.9% whereas in enterprises that prioritise commercial behaviour, the average pay gap between high and medium skill is 23.3% and between high and low skill is 32.2%. As such, enterprises that give commercial behaviour a lower priority have a salary structure that differentiates little between levels of skill while enterprises that prioritise commercial behaviour evidence a higher pay gap between skill levels.

A pay structure that differentiates little between skill levels is in line with recent debates on CEO compensation. It is argued that the executive-worker pay gap has caused poor corporate performance, inequality, lack of worker motivation and the recent financial crisis (Andrés and Arranz-aperte 2019:169). Therefore, box schemes and CSAs may believe that a salary structure with little difference is fairer. However, whilst British CEOs are paid 133% more than their employees (Hellier et al. 2019), the average pay gap amongst case studies between high skilled jobs and the rest is 16%, with a maximum of 60% and a minimum of 0%. Green et al. (2015:253) proposes that equality in job quality should not be interpreted as all jobs ‘to have equal requirements and equal rewards’ but rather that jobs should ‘provide workers over their life course with adequate opportunities for self-validation, for self-development, and for meeting their material needs’. As such, wages must remunerate according to the level of skill of the job, but not to the extent of CEO pay. By doing, so employees in box schemes and CSAs have opportunities for self-validation and self-development by moving from low skill to high skill jobs.

Added to little differences in pay structure, another cause for commercially shy enterprises to have on average higher wages in low skill jobs is unpaid work. It distorts averages because

these positions are not paid and therefore wage averages are calculated only on enterprises who have employees at each skill level. Amongst the three commercially shy enterprises only two pay high skill work and one pays low skill work. This distorts averages because of the small sample and the little differences in pay structure.

Research on labour rights in AFNs has focused on farmers, for example Levitte (2010) and Galt (2013). Several papers analyse their income, for example Cone and Myhre (2000), Jarosz (2008), and Lass et al. (2003 cited in Galt 2013). And Dupré et al. (2017) analyses job satisfaction. Research on labour rights in AFNs is moved forward in this section by analysing the job quality of box schemes and CSAs' employees in terms of skill levels and their relationship to wages. The analysis of skill levels could not draw any conclusions about the extent to which job quality of low skill work is improved, but it did determine that AFNs need jobs in all quality levels, especially low quality. Since qualitative evidence shows that some enterprises implement strategies to improve low quality work it is proposed that the binary is that AFNs aim to improve the quality of work at all levels whilst the conventional food system does not try to improve the quality of work. The hybridity in the practice is that although low skill work is required in all case studies, some case studies improve the quality of low skill work, others design their operations to avoid low skill work and others rely on unpaid work to perform it. More research is needed to understand the complexities of reliance on unpaid work in the sector.

Offering jobs in all skill levels contributes in different ways to social sustainability. Offering high and medium skill jobs contributes to social sustainability because it provides higher quality jobs. But offering low skill work not only contributes negatively but also positively to social sustainability. The positive contribution is that as the box scheme and CSA sector is not widespread, there are not many workers with the experience necessary to work in medium and high skill jobs nor are there training programmes for them. Staff usually learn on

the job and therefore low skill work is important because it is a point of entry into the industry. Low skill work allows staff to learn about the complexities of working with fresh produce, such as seasonality, variety, freshness and sizes, and the operations of an enterprise.

This is evidenced in the following quote:

'I would not have been able to step into this role (box scheme manager) that I am in now without having a really good understanding of even a veg pack... I think having been through the system almost and been a volunteer and then a paid member of staff here, doing the pack and the urban farm shop, it really helps me understand what is going on and what the challenges are... a lot of it is just on the job learning...a lot of it comes with year on year experience' Growing Communities representative.

All managers interviewed had performed low skill work. Three box scheme managers started their career in the sector by doing low skill work. Two head growers also performed low skill work during their apprenticeship programs.

Low skill work contributes negatively to the social sustainability of the enterprises only when there are no efforts to increase its quality. Low quality work leads to high staff turnover, low motivation at work therefore impacting social sustainability (McPhail and Fisher 2008).

Some qualitative data was presented which showed evidence of efforts to increase the quality of low skill work. Therefore, more research that considers other aspects of job quality, such as job prospects, intrinsic job quality and the quality of the working time (Green et al. 2015), is needed to ascertain if box schemes and CSAs try to increase the quality of low skill work.

This type of research must include interviews with employees in all skill levels which this research was not able to do.

6.4 Trade-offs

Chapter 2 discussed that a sustainability analysis must consider social, economic and environmental issues (Hinrichs 2010, Forssell and Lankoski 2014, Maxey 2007). It argued that trade-offs in the practice of sustainability are inevitable as not all issues can be practiced to the same extent. This section aims to explore how sustainability values are balanced

through the concept of trade-offs. According to Porter (1996) trade-offs are the choices an enterprise must make to align values and activities. This section will bring together the characteristics discussed above through each enterprise type to discuss how social, economic and environmental values are traded-off.

The research identified a strong relationship between the AFN characteristics of reduced distance, new forms of market governance and strong relationships as these are analysed from the perspective of sourcing characteristics and all align to meet the principle value. A strong relationship between requirements for products and production and labour rights was also identified as these characteristics related to commercial behaviour. As such, each subsection will be structured taking into consideration these relationships and how case studies within the enterprise types implement similar and different practices therefore leading to trade-offs that impact the practice of sustainability in different ways.

6.4.1 Community enterprises

Community enterprise's reduced distance, new forms of market governance and strong relationships are aligned to meet their principle value. To cultivate a community that produces and consumes food these enterprises source all their produce from their own production thus achieving a high level of local food. Therefore, community enterprises implement direct sales because all the food traded comes from their own production. These elements are designed to give customers the opportunity to get involved in production evidencing that the relationship they prioritise is with customers.

Giving priority to community building means trade-offs between social, economic and environmental sustainability. Social and environmental sustainability are chosen over economic sustainability. Community enterprises contribute to environmental sustainability by implementing a high level of local food. They also contribute to social sustainability by

providing customers with opportunities for food production where they can improve their mental and physical health. Economic sustainability is traded-off. In terms of their own economic sustainability, community enterprises cannot increase their commercial activity because they need to keep a sense of community, as such they have limited business size. Direct sales further this limitation by offering only seasonal produce which is less appealing to customers. In terms of their contribution to the overall economic sustainability of the AFN sector, they contribute less to the total sales of local food because of their limited business size. Sourcing from their own production also means that these enterprises do not contribute to keep other organic growers in business.

Given these similarities between community enterprises, there are also significant differences related to the other two AFN characteristics: increased requirements for products and production and labour rights. Future Farms has no organic certification whilst Canalside does. Moreover, Future farms' wages are below the UK Living Wage and they also have a low pay gap. In contrast, Canalside pays above the UK Living Wage and implements a salary structure that differentiates between skill levels. This means that Canalside prioritises even more social and environmental sustainability than Future Farms by implementing food production practices that are proven to contribute to environmental sustainability and paying wages above the UK Living Wage which contributes to income equality and a higher pay gap which motivates workers to develop professionally in the sector.

The reason for these differences is their commercial behaviour which in turn has an impact on their economic sustainability. Future Farms gives economic behaviour a lower priority and practices a dependency approach to financial viability, whilst Canalside prioritises commercial behaviour and practices an equilibrium approach to financial viability. This means that Canalside is more commercially driven, and therefore more economically sustainable than Future Farms, even though both are community enterprises. This suggests

that Canalside is more professionally managed than Future Farms. Evidence of this is organic certification, which requires careful record keeping and staff with knowledge of organic certification standards. Finally, Canalside is better at balancing different values. As community enterprises both enterprises prioritise the communities they serve. But Canalside also endeavours to pay fair wages and therefore spends 54.4% of their revenue on staff costs. Instead Future Farms' highest operational cost is the purchase of stock for the village shop, 67.4%, which benefits Martin's residents.

6.4.2 Grower enterprises

Grower enterprises also align the AFN characteristics of reduced distance, new forms of market governance and strong relationships to meet their principle value. To provide member growers with a fair and secure income these enterprises prioritise buying from them. Growers are geographically close to each other which could mean they achieve a high level of local food. However, because they supplement from wholesalers their level of local food is lowered. Due to their principle value, grower enterprises purchase directly from growers. As such, these are the relationships they prioritise.

Unlike community enterprises, grower enterprises compromise in all values therefore achieving a more balanced approach to trade-offs. It may appear that grower enterprises prioritise economic sustainability because they are focused on securing the income of growers. However, the economic sustainability of the enterprise is traded-off for the economic sustainability of farmers. That is because prioritising buying from them means that the enterprise has a limited business size because it is bound by the capacity of member growers to produce food. As discussed in Chapter 5 more growers could become part of these enterprises but there are limitations such as access to land. Therefore, their overall contribution to the trading of local food is also limited. But, differently to community

enterprises, grower enterprises contribute to keeping organic growers in business by buying directly from them and the wholesaler. This focus on member growers means that social sustainability also impacts them and their communities. The continuation of their farming businesses is ensured thus securing employment for themselves and potentially generating jobs for others. As such, they trade off the social sustainability of customers for the social sustainability of growers. Economic sustainability is traded-off for environmental sustainability by the inclusion of a wholesaler, which means their produce travels from beyond the local area, but this is necessary as the wholesaler supplements the offer.

The AFN characteristics of increased requirements for products and production and labour rights demonstrate similarities and differences between the two grower enterprises. Whilst Keveral Community is organically certified, Green Isle Growers is not. This may signal that Keveral Community prioritises environmental sustainability more than Green Isle Growers. However, Green Isle equally prioritises environmental sustainability because they choose not to trade out of season produce whilst Keveral does. This means that the produce Green Isle Growers sources from the wholesaler is UK grown and therefore has less food miles than that sourced by Keveral.

Trading seasonal or variety is a significant difference between these case studies, which also has an impact on their economic sustainability. By prioritising environmental sustainability Green Isle trades-off economic sustainability. That is because trading only seasonal produce is less appealing to customers but more importantly it means that the enterprise only trades six months of the year because growers cannot produce for the winter and spring. As such, the enterprise purchases more than half of its total produce (88.4%) directly from growers and it is less commercially driven than Keveral. Instead, Keveral Community trades-off environmental sustainability (in terms of food miles) for economic sustainability. Keveral trades all year round, offers variety and buys less than half directly from farmers (47.6%).

This means the vegetable bag is more appealing to customers and they can purchase from the box scheme all year round. The impact of these decisions on the economic sustainability of member growers is significant. The monetary value of the purchases Green Isle makes directly from their growers is less than half than Keveral Community meaning that member growers at Keveral are more financially sustainable than those of Green Isle. But contextual factors must also be considered. Keveral has access to a greater diversity of farmers due to its location between Cornwall and Devon, whilst Green Isle is in Wales where the access to organic growers is more limited. As such to meet its principle value of buying mostly from member growers, Green Isle must limit itself to buying from them thus affecting their financial sustainability.

Despite these differences, similarities are found in terms of how they implement labour rights. Both enterprises pay below the UK Living Wage and have a low wage gap. This is due to the nature of these enterprises. Both are run by growers which means they supply to the enterprise and are involved in the day-to-day running. Due to this arrangement growers at Keveral receive money from sales to the enterprise and wages for their labour. Both enterprises keep staff costs as low as possible so that growers can capture more revenue. This business arrangement highlights that it cannot be assumed that all sustainability values must be accomplished by all AFNs. In this case, it could be argued that labour rights are not as important because there is no power imbalance. Growers are owners, employees and suppliers and therefore decide amongst themselves what is fair.

6.4.3 Trade enterprises

Trade enterprises' principle value is to market the most amount of sustainable food and the AFN characteristics of reduced distance, new forms of market governance and strong relationships align themselves to meet it. To market the most amount of sustainable food

these enterprises require more volume than community and grower enterprises. To this end, trade enterprises purchase from growers at different distances and wholesalers. Therefore, they achieve a low level of local food and implement direct purchases and purchases from wholesalers. To secure a reliable supply these enterprises prioritise relationships with growers and wholesalers, thus aligning to their principle value.

Prioritising trading the most amount of sustainable food means that other sustainability values must be traded-off. It could be said that environmental sustainability is traded-off for economic sustainability. By having bigger customer bases, which means more financial sustainability, trade enterprises require high volumes of food that cannot be sourced locally due to insufficient production and weather conditions. As such food travels more than in the other enterprise types thus having a higher impact on environmental sustainability. However, by trading more certified organic food, these enterprises may equally contribute to environmental sustainability because there is more land under organic production, which enhances the environment. This shows there are potentially different ways to balance economic and environmental sustainability. As with grower enterprises, social sustainability is achieved by keeping farmers in business and in turn generating jobs in organic horticulture. This is the greatest achievement of trade enterprises; they have built bigger markets to support a significant number of growers practicing organic horticulture. In the case of Growing Communities, the social sustainability of customers is not traded-off because they also provide facilities for them to become involved in food growing. Soon COFCO will follow this example through their food hub.

Unlike community and grower enterprises, trade enterprises behave similarly in terms of increased requirements for products and production and labour rights. The three of them have organic certification, their wages are above the UK Living Wage and their salary structures differentiate between the different skill levels. This is achieved by trading-off local food.

This is not meant to say that they do not trade local food; section 6.4 evidenced that they in fact trade more local food than community and grower enterprises, but that in order to trade as much sustainable food as possible the compromise is not to trade only local food. In this scenario organic certification becomes important to guarantee customers organic methods of production as they have little or no contact with growers. It has been argued that third party certification became necessary to maintain consumer trust when the organic industry scaled up (Nelson et al. 2010). By trading-off local food these enterprises can serve bigger customer bases therefore being more commercially driven and more economically sustainable. This may be linked to better wages and higher pay gaps as evidenced by other studies. NGFN (2014) found that top performing food hubs pay better wages than low performing. Similarly Schreck et al. (2006 cited in Levitte, 2010) found that larger, commercially orientated organic farms provide more benefits to their employees such as health, dental and life insurance, paid vacation, pension and sick leave.

6.5 Values, how and to what extent

The aim of this research is to determine how and to what extent sustainability values are practiced by box schemes and CSAs. This chapter analysed how the principle value and commercial behaviour impact on social, economic and environmental sustainability. As such, in answer to the question how are sustainability values practiced by box schemes and CSAs? Case studies choose a principle value and a way to behave towards earning money (commercial behaviour). These impact sustainability values by making them trade-off between social, economic and environmental values. Thus, none of the typologies proposed in this thesis like principle values, enterprise types, customer retention methods, business size or commercial behaviour is a sole determinant of how sustainability is built. Rather it is the combination of these typologies that determines their sustainability. Therefore, each case study has its own version of sustainability. However, trade enterprises evidence more

similarities but further research on other characteristics such as fair pay to farmers or job quality could show differences amongst them.

The second question this research posed was to what extent are sustainability values practiced? Chapter 5 showed that the extent to which the principle value is practiced depended on the commercial behaviour of the enterprise. This chapter analysed AFN characteristics and evidenced the hybridity in the practice is due to the alignment between the operational or financial characteristics and the principle value or commercial behaviour. Therefore, the extent to which sustainability values are practiced through reduced distance, new forms of market governance and strong relationships are dependent upon the principle value. The extent to which sustainability values are accomplished through requirements for products and production and labour rights is dependent upon commercial behaviour. But commercial behaviour also enhances the overall extent to which sustainability values are practiced. For example, Canalside practices to a greater extent social, economic and environmental values than Future Farms due to their commercial behaviour. Contextual factors also impact on the extent to which sustainability values are practiced as is the case of Green Isle Growers, who cannot increase their purchases from farmers due to the limited farmer types in their area of Wales. Therefore, the extent to which values are achieved is dependent upon principle value, commercial behaviour, and contextual factors of the local food movement.

6.6 Summary

This chapter has analysed the sustainability of case studies through three elements: operational and financial characteristics, Forssell and Lankoski's (2014) framework, and measures case studies consider important. As such, the aim is not to assess whether case studies are sustainable or not. Instead, it is to understand how the operational and financial

characteristics influence the decisions case studies make when they decide how to practice and trade-off the sustainability values they believe in.

This chapter has contributed to the thesis an analysis of sustainability values based on the impact the principle value and commercial behaviour impose over them. This analysis has helped the research answer its two main questions: how are sustainability values practiced? and to what extent? Case studies choose a principle value and a way to behave towards earning money (commercial behaviour). These impact their sustainability by making them trade-off between social, economic and environmental values. Thus, each enterprise builds its own version of sustainability based on the chosen principle value and economic behaviour. The extent to which sustainability values are practiced is dependent upon their principle value and commercial behaviour. The next chapter will interpret these findings and contextualise them within the literature. It will also conclude the thesis by summarising all the chapters and reflecting on the work done and future research.



Chapter 7

Discussion and Conclusion

7.1 Introduction

This chapter has two aims. First, to discuss the findings of this thesis and contextualise them within the literature. Second, to conclude the thesis by bringing it all together and reflecting on the work done, how it was done and future research.

The chapter is divided into seven sections. First, the chapter provides a summary of the thesis, demonstrating how its structure justifies, develops and answers the aim and objectives of the PhD. At the end it summarises the findings of the thesis. After this, the chapter discusses the findings within two main themes: economic success and sustainability. The following section discusses key themes found in the analysis and discusses how they take forward AFN and VBSC literature. The fifth section discusses the limitations of the research and section six reflects on the methodology developed in the thesis to study how and to what extent sustainability values are practiced. Finally, the last section discusses future lines of research. The chapter closes with a summary.

7.2 Thesis summary

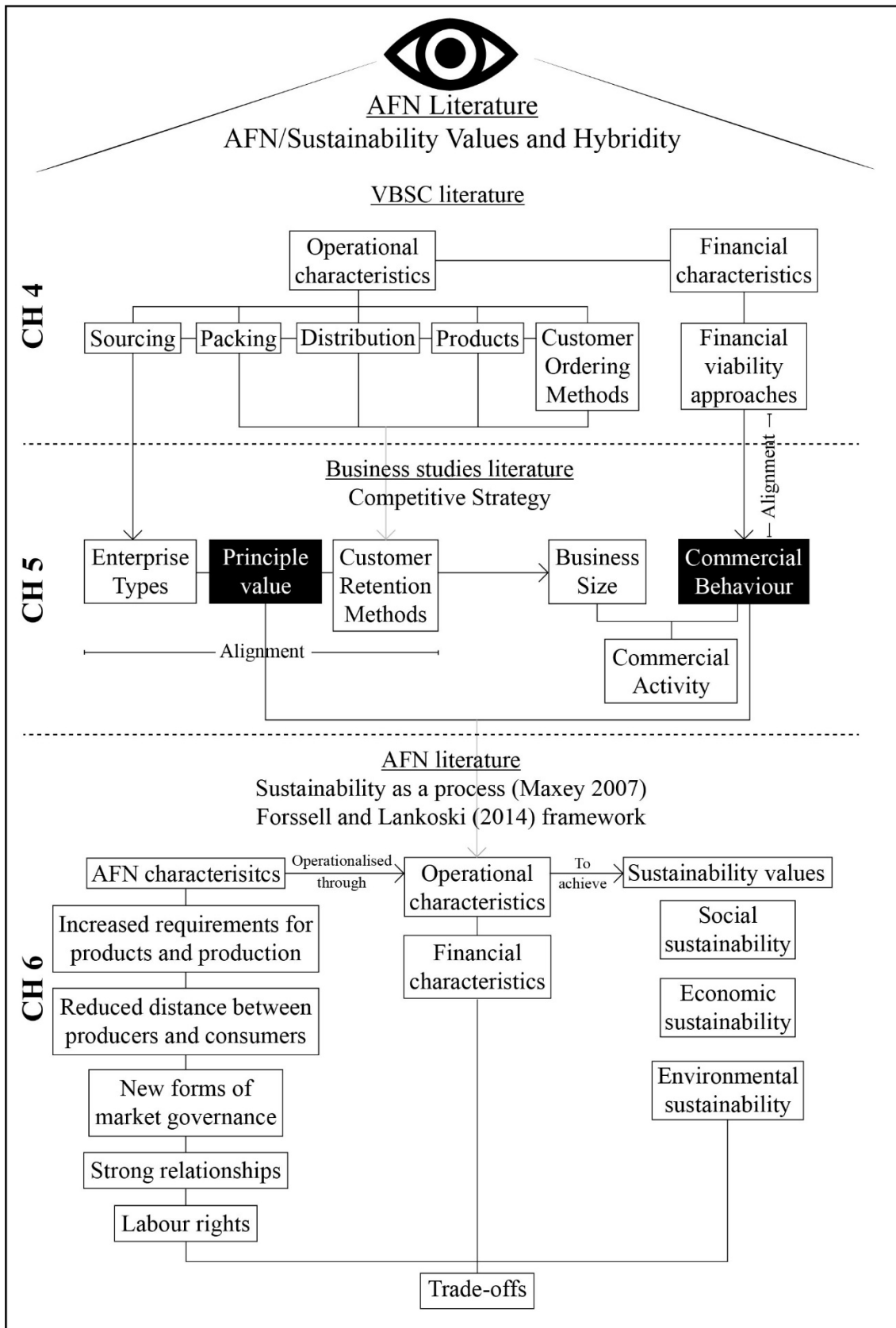
Chapter 1 demonstrated that the literature has not resolved the question of whether AFNs are different to conventional food systems. The thesis proposes that although conventional and food systems are hybrid, AFNs aim to be sustainable. Therefore, the question is not if they are different but how they are different. Since the difference lies in the promise of sustainability, the aim of this thesis is to determine how and to what extent sustainability values are practiced by box schemes and CSAs.

Chapter 2, the conceptual framework, justifies the first two objectives of the research.

Chapter 2 argues that data on operational and financial characteristics lead to the understanding of how values are operationalised. Therefore, Objective 1 is to establish the operational and financial characteristics of box schemes and CSAs. This chapter also argues that the analytical tools provided by the AFN literature are not sufficient to answer the research question. To do so the research also needs to borrow from VBSC literature and business studies literature. Thus, the theoretical framework becomes a quilt of analytical tools. To apply these tools to the research question, the thesis needed to develop a new methodology. Therefore, Objective 2 is to develop a methodology to analyse how sustainable values are practiced by box schemes and CSAs using operational and financial data.

The thesis then moves on to Chapter 3 which sets out how to answer the research question given the analytical tools provided in the theoretical framework. The theoretical framework argues for the need to use QUAN and QUAL data. Therefore, Chapter 3 argues that the pragmatist paradigm and mixed methods are suitable to develop this research. Mixed methods allowed for several analytical processes within the research journey. Through these processes it was concluded that the case study was the most suitable method for this research because it allows for a deep understanding of a phenomenon which in this instance is needed

Figure 7.1: Methodology



Source: Author

to understand how box schemes and CSAs practice sustainability values. As such, the research undertook 8 case studies located in England and Wales.

Objective 3 is about testing Objective 2, in other words analysing box schemes and CSAs through the methodology to analyse how sustainable values are practiced. Figure 7.1 shows how the methodology was developed in three steps. At the top the diagram shows that the methodology is overseen by a definition of sustainability values and the hybridity of AFNs.

The first step in the methodology is to develop Objective 1, that is to establish the operational and financial characteristics of box schemes and CSAs, using the theoretical tools from VBSC literature. This is done in Chapter 4. The second step is developed in Chapter 5 where the principle value and commercial behaviour of the case studies are identified using the operational and financial characteristics. This is done through the analytical tools of business studies literature, specifically Porter's (1996) competitive strategy. The final step of the methodology is to analyse how the principle value and commercial behaviour impact on the social, economic and environmental sustainability values AFNs aim to practice and how these are traded-off to meet the principle value. This is done in Chapter 6 through two AFN theoretical tools: Maxey's (2007) definition of sustainability and Forssell and Lankoski's (2014) framework.

Objective 3 also enables the thesis to answer the research question. That is, how and to what extent sustainability values are practiced by box schemes and CSAs. The results of this thesis show that box schemes and CSAs practice sustainability values by prioritising a principle value. Three types of principle value were identified: to cultivate a community that produces and consumes food (community building), to provide member growers with a fair and secure income (income security) and to market the most amount of sustainable food (marketing sustainable food). These values are sustainable because they work towards social (community

building) and economic (income security and marketing sustainable food) sustainability. Commercial behaviour is another element identified in the analysis and its aim is to understand case studies' attitude towards earning money. There are two ways in which this is practiced. One is to prioritise values and give commercial behaviour a lower priority. The other is to prioritise commercial behaviour as long as sustainability values have been met. Commercial behaviour impacts on the extent to which the principle value is practiced but does not shape it. The principle value is always the priority. Other social, economic and environmental values are traded-off to help meet the principle value. As such, the extent to which other sustainability values are practiced is dependent upon the principle value and commercial behaviour.

The aim of the research came from the unanswered question of whether AFNs are different to conventional food systems. Beyond demonstrating the importance of competitive strategy, Porter's (1996) main objective is to explain how an enterprise can achieve superior profitability. Therefore, understanding profitability is a main driver of business studies and profitability is the main driver of the business community. Since value has been defined as 'conceptions of the desired', it is argued that superior profitability is what businesses operating within the conventional food system desire. In other words, their principle value. This contrasts with AFNs whose principle value is within sustainability. Therefore, the difference between AFN businesses and businesses within the conventional food system is that whilst the former uses commercial behaviour to enable (or hinder) the practice of the principle value, which contributes towards sustainability, the latter's principle value is superior profitability. This finding is in line with Bloom's (2009:55) argument:

'While these strategies (AFN) are economic in nature, their ultimate goal is to use economic survival as a means to ensuring the social well-being of participants along the supply chain. In comparing these mechanisms to the industrial food system, they say 'such strategies differ

fundamentally from commodification strategies based on achieving the lowest costs of production globally, what have been called the 'race to the bottom' or 'immiserising growth.'''

7.3 Discussion

The results of the thesis give way for the discussion of two important topics: economic success and sustainability. As mentioned in Chapter 3, the motivation to do this research came from the economic fragility of my farm business and a perceived fragility of box schemes I supplied. In this context, it was inevitable to wonder why it is that some businesses are more successful than others. Although this thesis focuses on sustainability values, it does so from the perspective of operational and financial characteristics. As such, it provides some ideas about what makes a box scheme or CSA successful.

Financial viability is critical to ensure the resilience of any enterprise. Therefore, a way to define success is from an economic perspective. In Chapter 2 it was argued that AFN literature approaches economic aspects from the perspective of impact. In other words, evidencing economic impact through, for example, jobs created in rural areas (Lobley et al. 2009) or contribution to local economy (Sage 2003). Discussing economic aspects through the lens of impact is a way to talk about money without talking about money. That is, impact allows authors to evidence there is economic activity (money spent), but it does not require to evidence the scale of such economic activity (how much money is spent). Therefore, AFN literature avoids discussing economic success because it focuses on the impact of the enterprise rather than on its economic viability.

On the other hand, VBSC literature embraces economic success and thus analyses how food hubs have the capacity to generate income and be profitable. For example, Fischer et al. (2015) identify that successful food hubs are those that have the capacity to generate income

through fund raising to achieve goals such as growing regional food systems, increasing healthy food access and impacting local economies. Similarly, the food hub benchmarking study identifies the top 25% food hubs as those that are most profitable and compares the performance of other food hubs against them (NGFN 2014). Finally, Fischer et al. (2015a) find the characteristics that make food hubs financially viable. However, this focus on economic success overlooks the fact that sustainability values impact economic success.

The analysis of operational and financial characteristics and, sustainability values allows this thesis to discuss how economic success and sustainability values are related. Chapter 5 proposed several elements derived from the analysis of operational and financial characteristics which include: enterprise types, customer retention methods, business size, commercial behaviour, and commercial activity. Since customer recruitment and retention is critical to achieve economic success (Galt et al. 2018), then the case studies with larger customer numbers and therefore turnovers are the most successful. They achieve this by combining enterprise types, customer retention methods, business size, commercial behaviour, and commercial activity in such a way that allows them to easily access larger customer numbers and turnovers. If that is the case, why is it that not all case studies do the same?

Essentially it is because case studies want to achieve different things. This is what principle values point to, they demonstrate that not all case studies set out to do the same. Whilst for some the most important value is to build community, for others is to secure the income of local growers and for others is to market the most amount of sustainable food. These different values require different sets of operational and financial characteristics as shown in the previous chapters. As such, not all case studies can access the same amount of customer numbers because their principle value either enables or hinders them from doing so.

However, the research found that it is not principle values alone which contribute to economic success, commercial behaviour is also an important component. The aim of commercial behaviour is to demonstrate that the attitude towards earning money of those participating in managing an AFN has an impact on the finances of the enterprise.

Commercial behaviour has two elements: financial viability approaches and the balance between values and economics. The research identified two types: prioritise values and give commercial behaviour a lower priority and, prioritise commercial behaviour as long as sustainability values have been met.

The thesis demonstrates that those enterprises that prioritise values and give commercial behaviour a lower priority are also dependent upon funding to achieve financial viability and therefore are financially vulnerable. As such, an attitude of underestimating commercial behaviour hinders economic success. On the other hand, a second group of case studies prioritise commercial behaviour as long as values have been met. They are financially sustainable with some achieving viability and others profitability.

But within this second group not all share the same principle value, in fact all principle values identified in this research are included in this group. Focusing on this group of case studies shows that economic success takes different meanings, even though they are all financially viable. The meaning of economic success depends on the values case studies choose to practice. For example, Growing Communities, COFCO and Riverford Sheffield share the same principle value of marketing the most amount of sustainable food. By doing this they have high customer numbers and turnovers which is evidence of economic success.

Consequently, they contribute to the incomes of many organic farmers across the UK.

Differently, Canalside, with a principle value of community building, has less customers (170) than Growing Communities (1030), COFCO (700) and Riverford Sheffield (600) yet on a three-year average it is more profitable than these cases thus also evidencing economic

success. But it does not generate the same widespread impact amongst organic growers. Similarly, Keveral with 126 customers manages to provide dividends to all its member growers at the end of the year, another sign of economic success. This on top of buying their produce and employing them to pack and deliver produce. Thus, fulfilling its principle value of providing member growers a fair and secure income. As such, economic success is not dependent on scale nor principle value, it is critically dependent on commercial behaviour, and it is interpreted within the context of the case study.

This discussion highlights the different scales that there are within box schemes and CSAs and therefore the different competitive strategies that are implemented within the sector. There are case studies that adopt a competitive strategy of serving larger numbers of customers (>600 customers) and there are others that choose a competitive strategy of serving less customers (<170 customers). Scale is important because the bigger the box scheme or CSA, the more professional it becomes due to its increased capacity. For example, the bigger case studies have websites that allow customers to subscribe, manage their accounts and buy online; contract software that allows them to manage customer accounts, orders for growers and website; hire people or create departments specialising in human resources, accounting, box scheme management, food production and marketing; invest in developing customer recruitment strategies with a budget to promote the enterprise. And they evaluate their performance. Instead, smaller cases have websites that only inform potential customers, amalgamate administration activities in one person and have limited resources for customer recruitment. Consequently, in some instances the finances of the case study are not clear, as demonstrated here, or they do not have the capacity to reflect and evaluate their performance to improve their practices.

This situation may be typical of a nascent industry. The food hub sector in the US was also divided between large and small enterprises (Fischer et al. 2015b). Recognising the limited

capacity of smaller food hubs and the lack of knowledge about the industry overall, several stakeholders in the US from government, academia and financial institutions got together to increase capacity through research and training. This effort has led the sector to professionalise and importantly identify, research and train on skills exclusive to food hubs such as coordination of values-based supply chains.

One of the advantages of food hubs is that they allow for larger volumes of food to be traded. As such, they are a suitable solution for mid-scale farmers, which are defined as those that are too small to supply commodity markets and too large to sell directly to consumers (Lyson et al. 2008). The food hub is an intermediary big enough to take larger volumes of food products but small enough to secure more value for the mid-size farmer. But due to the nature of the food hub the direct exchange between producer and consumer is eliminated, much like it is in the larger case studies presented in this thesis.

In criticising the VBSC literature, which for the most part focuses on resolving the logistical challenges of food hubs, Mount (2012) argues that the legitimacy and alterity of AFNs are best preserved through the direct exchange. That is because the values that producers and consumers share are exercised through exchanging directly. These values suggest that ‘intangible qualities’ are what make local food something more than a commodity. If local food is delivered at a larger scale then it is more difficult to deliver ‘intangible qualities.’ As such, scaling up AFNs cannot be accomplished by just increasing volume because then ‘intangible qualities’ are lost. However, the definition of intangible qualities is not clear as it is ‘some piece of added value that is difficult to quantify because it relates to the perception of participants’ (Mount 2012:109). In other words, intangible qualities are what producers and consumers decide they are during the direct exchange.

The problem with this interpretation is that it assumes or wishes that AFNs remain small farm enterprises led by a local farmer. This may be due to the focus and fascination AFN literature places in the individual farmer. Instead, this thesis evidenced that AFNs now include organised groups of people, either consumers, producers or both. As groups, they must establish a goal or value to work towards which this thesis has identified as the principle value. They design their operational and financial characteristics in order to accomplish such value, something which Porter (1996) called strategic fit. All other sustainable values are traded-off to practice the principle value. As such, ‘intangible qualities’ are not vague or left to an interaction between producer and consumer, rather they are clear values that case studies set out to do.

Given this argument, the direct exchange is not critical to accomplish ‘intangible qualities’, or what this thesis calls sustainable values. Some case studies choose to preserve the direct exchange but it is clear why. For Future Farms and Canalside it is to build community and for Green Isle Growers and Keveral it is to secure the income of their member growers. Equally, the case studies that do not preserve the direct exchange also achieve sustainable values as evidenced in Chapter 5 and 6. As such, legitimacy and alterity are not exclusive of the direct exchange. This means that AFNs, which can be defined as those that practice sustainability values, at any scale are equally valuable because they all contribute to a sustainable food system.

Preserving the direct exchange means case studies place limitations as to what they can achieve. They trade food only from the land available to farm which means they can only serve a limited number of customers. COVID-19 increased the demand for local food. Sales have risen 111% between end of February to April 2020 (Wheeler 2020). The industry has had to respond immediately to such demands. However, it can be assumed that those that preserve the direct exchange are limited in their response whilst case studies that place no

limitations have been more able to accommodate more customers. Thus, case studies that do not preserve the direct exchange have been able to benefit more from opportunity presented under COVID-19.

If the vision for a sustainable food system is based on regional food systems where local food is traded through a range of alternative schemes such as box schemes and CSAs; then, the idea of the small, direct exchange enterprise cannot be the only way in which produce is traded. Other forms of trade at different scales must be included within such a system, especially because food is not only purchased to be consumed at home, but also in restaurants, events, hospitals, prisons and schools, to name a few. In fact on average a UK household spends 9% of its income in restaurants and hotels (ONS 2018). Scaled up AFNs, with characteristics similar to the case studies presented here, are necessary to supply the needs of these industries. As indeed is already happening in the US with food hubs and in the UK with organic wholesalers. Therefore, academic research must not consider ‘imperfect or outlying’ (Tregear 2011:425) AFNs that do not have the direct exchange but instead it should endeavour to understand why the direct exchange is not possible, as has been done in this thesis.

Having said this, another important challenge for UK box schemes and CSAs is Brexit. As discussed in Chapter 4, enterprises that provide variety depend on European produce. If trade between the UK and Europe is subject to high tariffs that make European produce too expensive, then it would be challenging for box schemes and CSAs, especially bigger ones, to continue to provide the same variety to their customers. Currently the EU provides 30% of the food consumed in the UK (National Statistics 2018), in this context it could be assumed that food trade would remain similar to ensure food security in the UK. However, the ambiguity and disorderly fashion of the Brexit process, makes even logical assumptions

uncertain. Therefore, it remains to be seen how this change will benefit or hinder the operation and sustainability of AFNs in the UK.

Another important topic of discussion is sustainability. This thesis has implemented a novel way to study sustainability by analysing it from the case studies' definition of sustainability rather than defining sustainability. This was done through the AFN analytical tools of Maxey (2007) and Forssell and Lankoski (2014). The thesis takes these analytical tools forward by applying them to real-life AFNs. The research builds on Maxey's (2007) definition of sustainability by analysing how operational and financial characteristics contribute to the process of building sustainability. Forssell and Lankoski's (2014) framework is also taken forward by testing it on box schemes and CSAs. Following Maxey (2007) the analysis establishes the binary between the AFN and conventional practice to discuss the hybridity, or the practices that lie in between these extremes. For example, due to the operational characteristics of the case studies, strong relationships are not only between producers and consumers but also between the case studies and consumers, between case studies and producers and between the case studies and wholesalers. Finally, by including labour rights, the research addresses the concern expressed by Forssell and Lankoski (2014) of whether it belongs to AFN research and contributes to the literature by providing empirical data on job quality, a subject never addressed in AFN literature.

An aspect worth highlighting in this discussion is trade-offs and their inevitability in the practice of sustainability. This means that there are limits as to the sustainability an AFN can accomplish. Allen et al. (1991 cited in Hassanein 2003:78) define sustainability within AFNs when there is an equitable balance between social, economic and environmental values. This thesis shows equitable balance is not possible because the operations of an AFN are designed to prioritise one sustainability value. Moreover, most box schemes and CSAs have multiple actors within the supply chain. That is, growers, wholesalers, the enterprise and customers. If

sustainability is the equitable balance this would suggest that the sustainability of all actors is also equitably balanced with that of the enterprise. But the research found this is also not possible. For example, Green Isle Growers and Keveral prioritise the economic sustainability of member growers over the enterprise, or COFCO and Riverford Sheffield prioritise the social sustainability of growers over customers. Perhaps Growing Communities is the only case study that tries to work for the sustainability of all actors albeit to a different extent. Therefore, the idea of equitable balance feeds into a narrative that an AFN can resolve all the ills of the food system. Instead, the narrative should be based on each AFN contributing to resolve a specific problem and together as a whole rooted in a region resolving the problems of the food system.

Forssell and Lankoski (2014) argue that the sustainability promise of AFNs has been questioned through studies that focus on a specific type of AFN or on a specific sustainability issue. Conducting research in such a way hampers the understanding of sustainability in AFNs and potentially discredits the aim of building sustainable food systems. To avoid this, the thesis has considered some aspects within the social, economic and environmental themes. By doing so, the research evidenced that whilst there are some aspects in which case studies are not sustainable, there are others where they are, and that not all sustainability values are practiced to the same extent. However, it is acknowledged that the thesis has focused more on economic sustainability than in the other aspects of sustainability. This is due to the literature's lack of attention to the economic sustainability of AFNs and how sustainability values impact on it.

Chapter 1 argues that sustainability assessments are not appropriate to examine AFNs.

Chapter 3 described the Better Food Traders (BFT), a network organisation of community-led trade initiatives which aim to differentiate themselves by agreeing to meet the Growing Communities principles through a certification process. The BFT certification is a kind of

sustainability assessment as it aims to demonstrate how community-led trade initiatives trade local, seasonal, healthy, sustainable, fairly traded, low carbon, kind to people food (Better Food Traders 2019). This thesis found that each enterprise practices its own version of sustainability. As such, the basis of the BFT certification, that is the Growing Communities principles, is in opposition to this finding as it sets out a version of sustainability for all those AFNs that become certified.

Despite this, some AFNs in the UK want to unify under one certification to communicate clearly to customers, thus cultivating their trust which in turn increases customer numbers. In this context, the question of how sustainability should be evaluated given all case studies practice different versions arises. Given that sustainability is socially and politically defined then a process of negotiating the meaning of sustainability amongst those that are certified is inevitable. This means that each AFN will have to clearly understand the sustainability they practice; And then a process of governance and negotiation similar to that undertaken by Participatory Guarantee Systems must develop in order to arrive to a unifying definition of sustainability. Therefore, the work here is not so much assessing the sustainability of individual AFNs. Rather it is helping them understand their sustainability by identifying their principle values and the sustainability values they trade-off. Also, building governance capacity so that they have time and space to negotiate a unifying meaning of sustainability.

This section was centred around economic success and sustainability. Through these topics this section covered direct exchange, legitimacy and alterity, scale, competitive strategy, professionalisation, skills, the study of sustainability and sustainable assessment. The following section contextualises the analysis within the literature.

7.4 Key themes and current literature

This section discusses several key themes identified through the analysis and contextualises them within AFN literature. Key findings are organised according to their order in Chapters 4, 5 and 6.

7.4.1 Operational characteristics

Operational characteristics challenge assumptions about the way box schemes and CSAs operate. AFN literature tends to assume that in box schemes and CSAs producers and consumers interact face-to-face, and consumers purchase products direct from the producer (Renting et al. 2003). The research found a more complex picture than this description. Box schemes and CSAs also buy from wholesalers. However, differently to the wholesalers described by Bloom and Hinrichs (2010), they are not conventional also trading local produce. Instead, they are dedicated exclusively to trading organic produce but both from the UK and beyond, thus allowing case studies to offer variety. As such, box schemes and CSAs are not only doing direct sales but also direct purchases from farmers and purchasing from wholesalers. Some implement practices which do not require a face-to-face interaction such as staff packing produce, delivering door to door, and allowing customers to order online. These characteristics set box schemes and CSAs apart from other AFNs such as farm shops, farmers' markets, roadside sales and pick your own schemes, which may also have more complex characteristics than those described by Renting et al. (2003) if studied in depth.

The thesis also takes forward VBSC literature by identifying additional operational characteristics. These include packing, distribution and customer ordering methods. One of the reasons why these extra characteristics are not included in VBSC literature is because food hubs mainly sell wholesale (Colasanti et al. 2018). Instead, box schemes and CSAs focus on final consumers. As such, the extra characteristics are related to final consumers.

These characteristics allowed for a deeper investigation of customers as will be discussed later in the section.

7.4.2 Financial characteristics

The financial analysis implemented in this thesis is based on the 5LIS method from VBSC literature. The principle of the 5LIS is that food hubs aim to be financially sustainable from their own resources (NGFN 2014, Fischer et al. 2015a, Colasanti et al. 2018). With 5LIS, studies such as the benchmarking studies (2013 and 2014) and Fischer et al. (2015) have focused on finding characteristics that make food hubs financially viable. For example, turnover. Food hubs earning upwards of \$1.5 million are more likely to cover their operational costs than those earning less than \$125,000. These studies are based on samples of 48 food hubs which allows the use of statistical analysis to find characteristics that signal financial viability.

Instead of looking for characteristics that signal financial viability, this thesis analyses how financial sustainability is approached albeit also using the 5LIS method. The difference lies in the method of research. Since the case study method allows for a deep understanding of each enterprise, the analysis is more detailed, turning financial information into typologies to evidence how each case study approaches financial viability. A statistical method would not allow for this level of understanding as answers are sought from the patterns identified in the collective data rather than from the data of individual enterprises.

Financial viability approaches are an important step forward in terms of focusing research of economic aspects on the enterprise rather than the impact it can have on local economies; a better understanding of how financial viability is practiced; and the dangers of grant and free labour dependency on the economic resilience of the enterprise. This finding has the potential to increase interest in how financial management is practiced within box schemes and CSAs.

This can lead to a better understanding of the financial risks in the sector and therefore financial products better suited for it.

7.4.3 Local food

One of the main characteristics of AFNs is that they trade local food (Feenstra 1997, Marsden et al. 2000, Tregear 2011). However, it is challenging to define local food in part because it is conflated with desirable outcomes (Tregear 2011). Born and Purcell (2006) argue a) that the local scale is a strategy but not an end goal. In other words, local is a vehicle to achieve desirable outcomes like contributing to a local economy. And b) that the local scale is socially constructed.

The research found three ways in which case studies practice local food based on physical distance: within the locality, within the locality of member growers and as local as possible. The arguments by Born and Purcell (2006) can be identified in these local food practices. Each way of practicing local food is a strategy which helps achieve the principle value. As such, the practice of local food is socially constructed between the people taking part in each supply chain. For example, community enterprises implement ‘within the locality’ to involve customers and staff so that they can cultivate a community that produces and consumes food (principle value). Actors and the principle values come together because they share particular political struggles in a particular time and place (Born and Purcell 2006:197). Therefore, physical distance becomes secondary because what becomes important in the practice of local food is how the actors involved (who are in a specific place) and the principle value come together. Thus, although all case studies reference local food in their mission statements, the physical distance of local food is never the same between case studies.

Therefore, this research adds to the conceptualisation of local food in several ways. First, it identifies the ways in which case studies practice local food in terms of physical distance.

Then it evidences Born and Purcell's (2006) arguments from empirical data. And finally, the analysis evidences that the actors involved in an AFN and what they aim to achieve (principle value) is more important than physical distance in terms of determining how local food is practiced.

7.4.4 Customers

Literature on customers tends to focus on their motivations to be part of a box scheme or CSA. Through interviews or questionnaires with customers, the literature evidences that they are motivated by sustainability values such as knowing where food comes from, supporting local farmers and cutting packaging waste to name a few. However, because these studies assume that all box schemes and CSAs operate in the same way, they find motivations that are not always met by the box schemes or CSAs. For example, that they are convenient or that they supply only local and seasonal produce. This oversight also leads to contradictory findings. For example, Seyfang (2008) finds that although customers are motivated to cut food miles, they see lack of variety as a limitation to become involved. Similarly, Brown et al. (2009) finds that although people want to purchase local food they also want to eat out of season produce.

By not considering the operational characteristics, the literature not only assumes that all of box schemes and CSAs operate in the same way but also that customers have the same motivations. This thesis provides a more complex view of customers by explaining how operational characteristics are designed to meet customer's needs. Therefore, some motivations are reframed here as customer needs and then the research shows how this need is met by operational characteristics. The fact that the case studies implement different customer retention methods, that is how they practice the customer needs of convenience, choice, variety, quality and, affordability and price, shows that customers are heterogenous.

Not all customers want the same from their chosen box scheme or CSA. For example, whilst some want their box to arrive at their doorstep, others want to travel to the enterprise and pack the produce themselves. Whilst some want to get involved in food production, others just want to receive their vegetables. Whilst some customers want to have a close relationship with the farmer others are happy to hear about them through a newsletter.

As such, research on AFN customers must consider the differences in operational characteristics. By doing so, types of customers could be identified thus helping box schemes and CSAs make informed decisions about the customers they are targeting and even which type of customer it is more common. This thesis contributes to this aim by identifying the operational characteristics and customers' needs that differentiate customers.

7.4.5 Hybridity

AFNs are hybrid, that is that they not only exercise sustainable values and practices but also conventional values and practices. Hybridity is essential in this thesis as it links conventional with sustainability values thus allowing the analysis of commercial behaviour and a more nuanced study of the practice of sustainability values. The literature has evidenced hybridity in three scenarios. First, how the mainstream food system appropriates AFN features and claims. Second, the involvement of conventional and alternative actors within AFNs. Third, how actors within AFN balance sustainable values with profit-seeking values (Bloom and Hinrichs 2011, Forssell and Lankoski 2014). This research adds to the literature by identifying three new scenarios: hybridity within the practice of AFN characteristics, within AFN customers and sustainability.

The first scenario is identified by building on Trabalzi (2007) and Forssell and Lankoski (2014). The former study analyses how the production systems of products embedded in the history, geography and culture of a particular place implement hybrid practices. To this end,

Trabalzi (2007) provides a detailed description of the traditional artisanal production of mozzarella cheese and compares it with the actual practices implemented by a number of case studies. Similarly, this thesis identifies the operational and financial characteristics of box schemes and CSAs which are the equivalent of production systems in Trabalzi (2007). Using the framework by Forssell and Lankoski (2014) the research links operations and finances to AFN characteristics. Each AFN characteristic establishes an ideal AFN practice which is the equivalent of the traditional artisanal production in Trabalzi (2007). For example, requirements for products and production is practiced through organic food. The research then compares the ideal practice with the operational and financial characteristics found in the case studies. Following the same example, case studies trade organic produce and produce grown with organic techniques but not certified. Therefore, like Trabalzi (2007), this research uncovers the hybridity within the practice of AFN characteristics.

This research argues that AFN customers are hybrid. Although there is literature that evidences how customers exercise sustainability and conventional values, this research reframes such studies within the concept of hybridity. For example, Kneafsey et al. (2008) found that customers that buy from AFNs also use other sources including supermarkets. Between 10% to 25% of their food purchases came from an AFN and the rest from a combination of local shops, markets, speciality retailers, internet schemes and supermarkets. Literature on customers' motivations to purchase from AFNs shows an alignment between their motivations and sustainability values. For example, customers want to reconnect with the food system by building strong relationships with producers. But the same research also evidences that customers want convenience, variety and lower prices (Seyfang 2008, Brown et al. 2009, Hashem et al. 2017). As such, customers are hybrid.

Finally, the research shows the hybridity of sustainability. The analysis of sustainability must consider social, economic and environmental issues (Hinrichs 2010, Forssell and Lankoski

2014, Maxey 2007). But earning money is a conventional value which is essential to economic sustainability. As such to achieve sustainability, it is necessary to implement sustainable and conventional values. The research focuses on earning money through commercial behaviour therefore highlighting the importance of economic aspects within AFNs.

7.4.6 Values

AFN literature that studies values tends to conflate them with AFN characteristics (Tregear 2011) and focuses on how values are not accomplished. To address these limitations the research used two analytical tools. One is competitive strategy which helps to identify the principle value from operational characteristics. Here there was no predetermined list of values case studies must accomplish, rather the identification of values is based on the practices case studies are already performing. Thus, the research overcomes the focus on values not practiced. The second analytical tool is Forssell and Lankoski's (2014) framework which sets out the AFN characteristics and the desirable outcomes the literature claims for each characteristic. Since values have been defined in the thesis as 'conceptions of the desired' or the desirable outcomes of those practicing AFNs, the framework links social, economic and environmental values to AFN characteristics therefore avoiding conflation. As such, both competitive strategy and Forssell and Lankoski's (2014) framework help to surpass the limitations of the literature.

Literature that challenges the sustainability promise of AFNs argues that some values are not practiced sufficiently or that they may cause counter effects (Forssell and Lankoski 2014). To address these concerns the thesis demonstrates how the principle value and commercial behaviour impact on the extent to which sustainability values are practiced. To arrive to this conclusion, it was necessary to include conventional values through hybridity and

commercial behaviour. As such, the study of AFN values must consider both conventional and sustainable values.

7.5 Limitations

This section discusses five limitations within this research. First, the limits of analysing sustainability from the case studies' own terms. Second, the limits of focusing only on box schemes and CSAs. Third, the limitations in collecting financial data. Fourth the vulnerabilities experienced whilst conducting the research. And fifth lack of contact with customers.

The approach taken here was to study case studies on their own terms. This creates a limitation as what case studies believe is sustainable is assumed by the research to be sustainable. An example of this is food miles. The analysis in Chapter 6 on reduced distance between producers and consumers assumes that food that travels less from the place it is produced to the place it is consumed achieves a higher level of environmental sustainability than food that travels longer distances. This assumption is based on the concept of food miles which questions the social and ecological implications of food that travels long distances (Paxton 1994).

However, the concept of food miles has been challenged. They have become linked to carbon counting therefore researchers questioned if indeed the carbon emissions of local food are less than those of non-local food. One such study is Coley et al. (2009) who compared the carbon emissions of the transportation system used by Riverford against the carbon emissions of a local farm shop. The results show that the former generates less carbon emissions than the latter, as such being more efficient. As mentioned before, Riverford stores produce in bulk which is transported through large good vehicles (LGVs) to regional hubs where it is picked up by franchises and delivered in light commercial vehicles (white vans). The research

found that using LGVs reduces carbon emissions as these are spread over a greater number of boxes than a trip to the farm shop. As such, what is important is not the miles travelled by a food item but rather the carbon emissions per unit of produce. Thus, the study concluded that within the Riverford system it was the door-to-door delivery in white vans that produced most of the carbon emissions.

Similar to the problem of food miles is case studies that only rely on their own production. This may generate more carbon emissions because the places where they grow might not be the most appropriate to for certain types of produce. Thus, they may require extra work that involves carbon emissions like deliveries of compost or tractor work as highlighted by Guy Singh-Watson (Executive chairman of Riverford) and addressed in the food miles report by Paxton (1994).

This observation and Coley et al. (2009) challenges the concept of food miles. In Chapter 6 it is suggested that Riverford generates less carbon emissions than Canalside, as most Canalside customers travel to the farm to pick up their vegetables whilst Riverford's received it in their doorstep. This suggestion evidences the limitations of studying case studies on their own terms. Participants construct their own versions of sustainability based on what they believe is sustainable, but that is no guarantee that the practice is sustainable. As such, there are two types of sustainability. One that is practiced by the AFNs built from their own belief system. The other is a scientific concept which to be studied requires a predetermined definition. There is value in both because the former allows an understanding of how AFNs operate and their capacity to contribute to sustainable food systems. The latter evaluates performance and highlights potential problems.

This observation further evidences the problem with defining sustainability. Before carbon counting methodologies low food miles was, to the knowledge of the case studies, a way to

achieve environmental sustainability. Now that food miles have been challenged, that is no longer the case. Therefore, case studies must be open to learn from the latest research and seek innovative solutions. For example, in the future, emissions from transport may not be as important because all transport may come from sustainable energy sources. As such, the definition of sustainability not only changes between case studies but also through time as technologies and research moves forward.

Another limitation of this research is its focus on box schemes and CSAs. Objective 2 was to develop a methodology to analyse how sustainable values are practiced using operational and financial data. The methodology was thus developed based on box schemes and CSAs. As such, the research cannot ascertain if the methodology can be applied to other types of AFNs. Further research is needed to answer those questions.

As discussed in the methodology chapter another limitation of this research was the financial data provided by some case studies. The research did its utmost to collect accurate data and communicate with case studies to achieve so. The analysis used data in good faith with the purpose of depicting case studies' finances as accurately as possible. However, there is no guarantee of financial data accuracy, especially in two case studies which did not keep appropriate records.

A fourth limitation is the vulnerabilities experienced during the development of the research. Different avenues were tested to develop this research. First through the Better Food Traders, then through the VBSC literature implementing the box scheme and CSA survey finally arriving to the case studies. Although each of these steps were useful in shaping thinking they also demonstrate that the research was not a smooth process. My previous experience also added complexity to the research process. My knowledge of the sector motivated me to look for something which I had no precise notion of what it was. Therefore, the research journey

was also about reflecting on my experience and clarifying how the research answered some of the questions I had when I worked in the sector, especially about economic success.

Finally, it has been discussed how this thesis contributes to a better understanding of AFN customers. However, it is acknowledged that the research did not interview customers, which is a limitation. Early research designs included focus groups with customers but due to time and budget constraints this was not developed. Having said this, the research benefits from not talking to customers by first analysing how enterprises respond to customers. As such, to delve deeper into the subject of customers, the next step is to interview customers considering the operational characteristics of the box schemes and CSAs they belong to.

7.6 Methodology

This section reflects on the methodology developed in the thesis to study how and to what extent sustainability values are practiced. The conceptual framework argued that AFN literature has a strong focus on social aspects. As such, research concentrates on people taking part in rather than on the AFN itself. To evidence the sustainability of an AFN studies like Miller (2015) and Forssell and Lankoski (2017) use peoples' reflections and opinions. Chapter 2 argued that although the aim is not to doubt whether sustainability is achieved in these studies, it is not enough to evidence sustainability through people's reflections and opinions but rather through how it actually happens. There is a need to investigate how sustainability is practiced and to what extent. This need becomes important due to the potential of social desirability response bias (Randall and Fernandes 1991) as early AFN literature has determine how AFNs ought to be.

To respond to this need, the research focuses on operational and financial characteristics. Through them the research was able to develop a deeper analysis of customers, commercial behaviour, sustainability, hybridity and values. Thus, revealing a more complex picture of

box schemes and CSAs than the literature had been able to do before. Therefore, the research demonstrates the importance of operational and financial characteristics in the advancement of knowledge of AFNs.

Having advocated for a focus on the enterprise and its operational and financial data does not mean that a focus on the individual and their reflections is not useful. Chapter 5 used QUAL data from observations and interviews to evidence how the collective and individual behaviour of those involved in the enterprise signal an attitude towards earning money. Showing participants' attitudes alongside the financial viability approaches was useful to establish commercial behaviour. As such, the research argues that both data that concentrates on the individual and collects opinions, views and motivations is as useful as data on the operational and financial characteristics. However, following the pragmatism paradigm, it was more useful for the aim of the thesis to focus on the enterprise and their operational and financial characteristics and use the individual and his/her opinions, views and motivations when it was necessary.

Another argument in Chapter 2 was that to study how sustainability values are practiced the research needed to concentrate on one type of AFN. The definition of sustainability implemented and the focus on operational and financial characteristics provide further evidence why concentrating on one type of AFN was an appropriate approach. Although case studies practice different versions of sustainability, they implement similar operational and financial characteristics. As such, the research identified the heterogeneity of sustainability through the homogeneity of operational and financial characteristics. If the study had included different types of AFNs, it would not have been able to identify the heterogeneity because there is no operational or financial homogeneity. Thus, the research would have had a version of sustainability per AFN type and therefore not been able to evidence how it changes for each AFN.

Other authors have proposed that the sustainability observed in one type of AFN may not be observed in another other (Forssell and Lankoski 2014, Michel-Villarreal et al. 2019). A such this finding is not novel. However, it is novel that the research demonstrates how AFNs exhibit different versions of sustainability. Michel-Villarreal et al. (2019) call for more efforts to create a common language for the study and measurement of sustainability. But given the findings, this research calls for the opposite. That is to continue investigating sustainability within the same types of AFNs. It is only by understanding at greater depth the sustainability of each type of AFN that comparisons can be made and thus a common language of sustainability in AFNs can be developed. This research proposed a methodology to do so.

An issue in Chapter 5 was Exeter VegShare. Since the case study selection there was a preoccupation with this case study as it had been operating only for a year. But this was also appealing as a young enterprise provided more variety to the sample. On reflection, a young case study, like Exeter VegShare, is not a suitable for this methodology. Exeter VegShare was challenging to analyse because its operational characteristics did not align with its principle value. This evidences that Porter's (1996) competitive strategy assumes there is alignment between the aim of the enterprise and its operational and financial characteristics. Exeter VegShare shows that alignment does not always occur. A reason is the age of the business. With only one year is unfair to expect Exeter VegShare would have a clear idea of what it wanted to do. The case study descriptions evidenced that some case studies, for example Growing Communities or COFCO, started as one thing and then became another. As years pass staff gain more experience and focus the enterprise. Nevertheless, alignment is essential for this methodology. Therefore, young case studies are not suitable for this methodology because alignment may not have been achieved yet. Having said that, analysing young enterprises through the lens of competitive strategy could help them focus their activities.

Another reflection of the methodology is the suitability of the survey method. The research implemented a survey, but it had not been useful because at the time of the design there was a limited understanding of the operational and financial characteristics. A survey aiming to investigate the operational and financial characteristics of the sector would be useful now that some characteristics and typologies have been identified. But it is not certain a survey would be appropriate for research looking at how and to what extent sustainability values are practiced. That is because each case study has its own version of sustainability and a survey may impose one version. It may be that the definition of sustainability implemented here requires the case study method to understand how and to what extent sustainability values are practiced.

Whilst reflecting on the methods and how they fitted with the research it is also useful to discuss the researcher's positionality. As discussed in Chapter 3, I had 3 years of practical experience in supplying box schemes in London. This was an important insight for this research because I understood how box scheme and CSAs operate, and the challenges they face in trying to be sustainable. As such, during data collection I was able to build rapport with interviewees easily and speak/understand their language. However, such knowledge was also a disadvantage because there was a previous judgement of the case studies that took part in the research, especially of those that were commercially shy. For me they were not doing a good job. Therefore, the challenge was to put aside my judgement and understand the reason why they operated in such a way. It was enlightening to find people and case studies with different priorities even though these do not satisfy financial ones. As such the positions of Galt (2013) and Pratt (2009) about analysing AFNs from a capitalist logic or away from it are very much found in the practice of AFNs.

A final issue to reflect on the methodology was the definition of skilled jobs. Heasman and Morley (2017) determine the jobs typical of high medium and low skill. Skilled agricultural

workers are classified as medium skill jobs. It could be argued that this classification dismisses the knowledge and experience farmers gain over the years not only in terms of production but also in business management. As such, farmers should be classified as high skill. However, this research decided to keep farmers in the medium skill category as it was outside of the scope of this research to make an argument for moving them to a higher skill.

7.7 Future Research

The section discusses new lines of enquiry that derive from the thesis analysis and findings. Chapter 6 revealed that there is a lack of clarity in the way box schemes and CSAs practice some AFN characteristics and their impact on sustainability. Future research projects could carry out deeper investigations that would clarify the issues highlighted in Chapter 6.

In terms of increased requirements for products and production, the chapter questioned whether the growing techniques of non-certified case studies contribute to environmental sustainability. A new line of research is to investigate the environmental sustainability impact of non-certified box schemes, CSAs and their suppliers. This can be compared with enterprises and suppliers organically certified and those taking part in PGSs.

This chapter discussed the problem with assuming low food miles contributes to environmental sustainability. As such, new research could focus on the carbon emissions of the different ways box schemes and CSAs transport produce. This includes how produce is transported to the headquarters and then how it is transported to customer's homes. Such investigation should consider rural vs urban settings.

New forms of market governance revealed that there is no evidence to ascertain whether case studies pay farmers a fair price. Thus, a future research project could implement Bronkhorst's (2016) methodology on box schemes, CSAs and their suppliers. This method helps to calculate fair prices. A project like this could also train the box scheme and CSA in good

recordkeeping practices. This would support the establishment and training of methodologies to calculate fair prices that are accessible to farmers.

More research on job quality is also necessary to have a better understating of how it is defined and performed within AFNs. This could include other factors like job prospects, intrinsic job quality, and the quality of the working time that could also be assessed. The participation of employees would be critical in such work, as mentioned in Chapter 6.

Another line of research is related to AFN characteristics. The thesis used one practice to explore each AFN characteristic. For example, for increased requirements of products and production the research used organic certification. However, a new line of research would be to consider other practices that fit within each AFN category. Local food could include research on informational distance (Forssell and Lankoski 2014), that is investigating how the information embedded within a food product travels through different box schemes and CSAs and the extent to which such information is important for the consumer. New forms of governance could include other practices such as supply chain governance, enterprise governance, supply and demand management and performance measurement. Governance is especially useful to investigate because governance mechanisms can lead to a concerted definition of sustainability as discussed in the context of sustainability assessment and the Better Food Traders Certification.

An important contribution of this thesis is demonstrating that AFN customers are not homogeneous. It has been acknowledged that the research did not interview customers to arrive to this conclusion. Therefore, future research should concentrate on customers. New lines of research include customer segmentation, that is classifying customers according to the types of box schemes and CSAs they take part of, the amount of time they are willing to invest in the enterprise, and the changes they have to implement in everyday life to become a

customer. Customer recruitment and retention is another potential line of enquiry. This could include an analysis of the convenience, choice, variety, quality and, affordability and price for customer recruitment and retention. All these potential lines of enquiry should be performed with the aim of furthering the development of box schemes and CSAs.

7.8 Summary

This chapter has demonstrated that the aims and objectives set out at the beginning of this thesis have been developed and that they answer research question, that is how and to what extent sustainability values are practiced. The findings of the thesis have also been discussed within the themes of economic success and sustainability. Also, key themes from the analysis that further knowledge of AFNs have been identified. Furthermore, this chapter has reflected on the research process and therefore has discussed limitations and the methodology developed to analyse sustainability values of box schemes and CSAs. Finally, it discussed future research.

This thesis examined sustainability values in AFNs to demonstrate how they are different to the conventional food system. In doing so the thesis moved forward literature on themes including operational and financial characteristics, local food, customers, hybridity and values. This was accomplished through to the use of operational and financial characteristics of box schemes and CSAs as data. By doing so the thesis provided a different perspective on AFNs which is more focused on the enterprise. This perspective provides new and exciting possibilities for AFN research which are more focused on working with practitioners to develop and succeed in their businesses. It is hoped that this thesis serves as an inspiration for academics and those involved in the UK alternative food sector and movement to take a closer look at the enterprises that take part and to collaborate with each other in formulating research projects that help develop them. There is great love and passion from everyone

involved to see a food system that is more fair, sustainable and accessible. Collaboration between different experts, both in the practice and academia, is key to make such visions become a reality.



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Appendices



Appendix 1: Interview Schedules

Interview 1 schedule – Box scheme / CSA Manager

Employees

- 1 Go over the information provided in the survey – Does information include all employees? Which ones are PAYE, self-employed, seasonal, full time, part time
- 2 Job description of each employee
- 3 Manager's experience before taking on the job, qualifications and age

Volunteers

- 4 Tell us about your volunteers
- 5 What role volunteers play in your enterprise?

Food producers and suppliers

- 6 Suppliers details: Number, farms/wholesalers, size,
- 7 How do you buy from your suppliers: buy every week from a list, planning, agreements, contracts, prices
- 8 Do you experience any challenges in supply?

Operations and services

- 9 Description of typical operations in a week
- 10 Description of facilities and infrastructure
- 11 Community development services

Interview 2 schedule – Box scheme / CSA supplier

Infrastructure

- 1 Please describe the facilities of your business – include transport
- 2 Turnover (ballpark figure)
- 3 What type of clients do you have and approximately how many?
- 4 How many employees do you have?
- 5 Do you pay above the living wage? (£8.75)
- 6 Can you explain your business and the operations it performs?*
- 7 How do you deliver your products? – Develop routes for wholesale clients?*
- 8 How many product lines do you have?*
- 9 What are the sources of income for your enterprise?*

Relationship with customer

- 10 Describe the relationship you have with the case study
- 11 Do you trust and rely on the case study for sales?
- 12 Do you have a minimum order and payment terms
- 13 In what ways has the case study facilitated your business*

Sourcing

- 14 Do you sell UK and non-UK produce?*
- 15 Do you supply the case study only with your own produce?*
- 16 How many suppliers do you have within a 30-mile radius?*
- 17 How many suppliers do you have from the UK (aside from 30-miles)?*
- 18 How many suppliers do you have from abroad?*
- 19 Aside from organic certification, do you seek any other certification?*
- 20 How do you source your UK produce?*
- 21 How do you source your non-UK produce?*
- 22 How many UK producers do you have?*
- 23 How many non-UK suppliers do you have?*

Appendices

- 24 Do you work with other organic wholesalers?*
- 25 Do you take into consideration the size of the farm business when considering new suppliers?*

Pricing

- 26 How do you set your prices?
- 27 Do you have an idea of the cost of production for each of the items you sell?*
- 28 If you price at a true cost, do you calculate it within your cost?*

Supply/Demand

- 29 How reliable are your clients ordering from you?*
- 30 How do you manage supply and demand?*
- 31 Do you think crop planning is feasible practice to supply you client (case study)?*
- 32 In your website you speak about the need to supply home delivery schemes and small shops with organic produce. Why did you decided you wanted to supply that sector?*
- 33 Do you believe the business you supply is doing well?*
- 34 As a supplier of box schemes, where do you see the sector going?*
- 35 Have you supplied schools or hospitals?*
- 36 People speak about customers wanting a range of produce throughout the year therefore the need to buy produce from abroad. Do you think if the demand was not there you could still have a viable business?*
- 37 How do you crop plan with the case study?*

Fair Trade

- 38 What does fair trade mean to you?

*Questions that were not asked to all suppliers as they were not relevant

Interview 3 schedule – Box scheme / CSA Manager

5LIS income statement questions

- 1 Prepared questions from 5LIS analysis

LM2

- 2 Go through items in the P&L in red to find if they are local/non local

Finances questions

- 3 What does/did breaking even mean for your enterprise?
- 4 Does your enterprise rely on funding?

Scale up

- 5 What are the future plans for your enterprise?
- 6 Do you plan to grow your enterprise?
- 7 What strategy would you employ to scale up the box scheme and CSA sector?

Fair Trade

- 8 What does 'fair trade' mean to you?
- 9 How do you practice fair trade in your enterprise?
- 10 Do you think you pay your suppliers fairly?
- 11 Is there any more you think your enterprise could do to be more fair to farmers and suppliers?

Appendix 2: Codebook

Node / Child node / Child node	Number of references
Interview 1	599
Labour	274
Enterprise roles	198
Job Quality	88
Wages	20
Opportunities to learn	18
Work intensity, effort and pressure	10
Work life balance	9
Employee turnover	5
Social environment	5
Work autonomy	5
Physical environment	3
Variety of tasks to be done	2
Job prospects	1
Professional experience	34
Volunteering	17
Differentiation	3
Difficulties	3
Enterprise development	2
Learning	2
Rewards	2
Occupation	1
Recruitment	1
Skills, qualities and attitudes needed	16
Flexibility	5
Friendliness	3
Skills	3
Resilience	2
Teamwork	2
Random labour	7
Staff recruitment	4
Staffing is never straight forward	3
Packing and delivery employment arrangements	4
Shift work	6
Casual work	4
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Appendix 3a: Consent forms – Case studies informed consent form

The object of the consent form is to signify that you (the participant) are consenting to everything described in the text of the information sheet, thus both participant information sheet and consent form depend on each other.

This consent form covers the PhD research project carried out by Paola Guzman, PHD student currently enrolled at Coventry University and titled: Examining the financial and operational performance of box schemes and CSAs in the UK the evaluate their potential to scale up.

Please write you initial if you understand/agree

1. I confirm that I have read and understood the participant information sheet for the above study and have had the opportunity to ask questions.

☐

5. I understand that I also have the right to change my mind about participating in the study for a short period after the data collection has concluded. The final date to withdraw is **31 May 2018**.

☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time by **31 May 2018** without giving a reason.

☐

6. I agree for communications (conversations, meetings, events, workshops) in which I take part in the PhD research, to be documented either by notes, dictaphone or video. I also agree for quotes from these to be used so long as they are anonymised and previously approved by me.

☐

3. I wish for the name of my business to be disclosed in publications presentations and website so long as the text used has been reviewed and approved by me.

☐

4. I do not wish for the name of my business to be disclosed in publications, presentations or website.

☐

7. I understand that accepting the £100 bursary does not enter me into a contract and therefore I can withdraw from the study whenever I want including before or after receiving the bursary.

☐

Date:

The participant name:

Signature

The researcher name:

Signature

Appendix 3b: Consent forms – Case studies participant information sheet

This document aims to inform you about the research project and it is complemented by a consent form that you must sign in order to take part in the research. The object of the consent form is to signify that you (the participant) are consenting to everything described in the text of this information sheet, thus both participant information sheet and consent form depend on each other.

This research is being carried out by Paola Guzman as part of a PhD at Coventry University with the title: Examine the financial and operational performance of box scheme and CSAs in the UK to evaluate their potential to scale up.

Purpose of the PhD project

The project studies the finances, operations and ethical values of box schemes and CSAs in the UK.

Why should my enterprise should take part?

As you may know data on how box schemes and CSAs operate and perform financially has not been collected before. This research is contributing to the sector by making a first attempt. Your participation will shape what information is collected and how. Other academics and campaigners are collecting data on social impact and productivity of small holdings and small food enterprises. A piece of the puzzle that is missing is how food produced locally and environmentally is retailed. Your participation will contribute to a wave of data collection that evidences how the alternative food sector achieves social, environmental and economic goals.

What does my enterprise have to do?

Provide financial records such as

- 2015 and 2016 balance sheets
- 2016 income statement
- 2016 statement of cash flows
- Profile of expenditure (template provided by me)

I would also need your commitment to the following activities

- 3 interviews with the manager of the box scheme or CSA (1 hour each)
- 2 interviews with your suppliers (if applicable) of 1 hour for each – for this I would only need contact details from you
- Focus group with clients of 1 hour- for this I would need contact details from you

What data will be collected?

The data collected will be financial information about your enterprise, operations, the daily activities of the business and the ethical values of the business. The data will be collected through documents you provide us and recordings of interviews with you, your staff (if applicable), your food suppliers (if applicable) and your clients.

What are the risks associated with this research?

The obvious risk to your business is data protection. To ensure that the information your enterprise will provide is safe, I will store all material in OneDrive which is the file hosting

service provided by Coventry University. OneDrive is subject to monitoring by Microsoft and the files are protected by accessing Coventry University Students' portal with an exclusive username and password.

What are the benefits of taking part?

I am offering an economic impact assessment report and £100 bursary. Note that the bursary is an incentive and nothing extra will be expected from you because of it. You are free from withdraw from the research before and after receiving the bursary (see withdrawal options for more details).

How is the data going to be used?

The main purpose is to use the information given by you as empirical data (such as the interviews and focus groups) on the PhD dissertation. The empirical data will also be used in academic and non-academic articles and presentations. No sensitive information will be disclosed without your approval. If text is used that refers to you or your business, it will be send for your approval.

Withdrawal options

If at any point during communications with me (interview, phone call, conversation) you feel uncomfortable, you can ask to stop the recording or taking notes and discuss why you feel uncomfortable. If after the discussion, you want to withdraw you are free to do so. Furthermore, if you don't want the audio file or the information given, to be used in the PhD, you can contact me by **30 June 2018** to withdraw. Please see contact details below. Please note that they £100 payment **does not** enter you in a contract to take part in the study and therefore you can withdraw from the research whenever you want, including before or after payment. There are no repercussions to you and your enterprise if you withdraw.

What if things go wrong? Who do I complain to?

Content removed on data protection grounds.

What will happen with the text, audio and video files?

The files will be kept until 31 March 2019

Who has reviewed this study?

This study has been approved by the Coventry University ethics review process

Content removed on data protection grounds.

Appendix 3c: Consent forms – Suppliers/Clients Informed Consent Form

The object of the consent form is to signify that you (the participant) are consenting to everything described in the text of the information sheet, thus both participant information sheet and consent form depend on each other.

This consent form covers the PhD research project carried out by Paola Guzman, PHD student currently enrolled at Coventry University and titled: Examining the financial and operational performance of box schemes and CSAs in the UK the evaluate their potential to scale up.

Please write you initial if you understand/agree

1. I confirm that I have read and understood the participant information sheet for the above study and have had the opportunity to ask questions.

☐

5. For clients only – I understand that quotes from the focus groups will be anonymised. I also understand that if it is desired to reveal my name, this will only be done with my approval.

☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time by **31 May 2018** without giving a reason.

☐

6. I understand that I also have the right to change my mind about participating in the study for a short period after the data collection has concluded. The final date to withdraw is **31 May 2018**.

☐

3. For suppliers only - I wish for the name of my business to be disclosed in publications presentations and website so long as the text used has been reviewed and approved by me.

☐

7. I agree for communications (conversations, meetings, events, workshops) in which I take part in the PhD research, to be documented either by notes, dictaphone or video. I also agree for quotes from these to be used so long as they are anonymised and previously approved by me.

☐

4. For suppliers only - I do not wish for the name of my business to be disclosed in publications, presentations or website.

☐

Date:

The participant

name:

Signature

The researcher
name:

Signature

Appendix 3d: Consent forms – Suppliers/Clients Participant Information Sheet

This document aims to inform you about the research project and it is complemented by a consent form that you must sign in order to take part in the research. The object of the consent form is to signify that you (the participant) are consenting to everything described in the text of this information sheet, thus both participant information sheet and consent form depend on each other.

This research is being carried out by Paola Guzman as part of a PhD at Coventry University with the title: Examine the financial and operational performance of box scheme and CSAs in the UK to evaluate their potential to scale up.

Purpose of the PhD project

The project studies the finances, operations and ethical values of box schemes and CSAs in the UK.

Why should I take part?

You have been identified as one of the suppliers/clients of one of the box scheme/CSAs the PhD project is working with. Your participation is important because it helps the research understand the supply chain of the box scheme/CSA. Your experience and opinions are significant in understanding the impact of the box scheme/CSA at the producer and consumer end. I encourage you to take part in this study because it will help in the understanding of box schemes/CSAs and how they can scale up

What do I have to do?

For suppliers

- 1 hour interview

For clients

- 1 hour focus group

What data will be collected?

The data collected will be: For suppliers, a one-hour interview. For the client a one-hour focus group.

What are the risks associated with this research?

The obvious risk is data protection. To ensure that the information your enterprise will provide is safe, I will store all material in OneDrive which is the file hosting service provided by Coventry University. OneDrive is subject to monitoring by Microsoft and the files are protected by accessing Coventry University Students' portal with an exclusive username and password.

How is the data going to be used?

The main purpose is to use the information given by you as empirical data (such as the interviews and focus groups) on the PhD dissertation. The empirical data will also be used in academic and non-academic articles and presentations. No sensitive information will be disclosed without your approval. If text is used that refers to you or your business (if applicable), it will be send to you for approval.

For suppliers only: If it is desired to disclose your name or your business' name, no confidential information will be disclosed, and it will be done only with your approval. If text is used that refers to you or your business, it will be send to you for approval.

For customers only: If it is desired to use quotes from the recordings of the focus groups, these will be anonymised. If it is desired to reveal your name this will only be done with your approval.

Withdrawal options

If at any point during communications with me (interview, phone call, conversation) you feel uncomfortable, you can ask to stop the recording or taking notes and discuss why you feel uncomfortable. If after the discussion, you want to withdraw you are free to do so.

Furthermore, if you don't want the audio file or the information given, to be used in the PhD, you can contact me by **31 May 2018** to withdraw. Please see contact details below. There are no repercussions to you and your enterprise if you withdraw.

What if things go wrong? Who do I complain to?

Content removed on data protection grounds.

What will happen with the text, audio and video files?

The files will be kept until 31 March 2019

Who has reviewed this study?

This study has been approved by the Coventry University ethics review process

Content removed on data protection grounds.

Appendix 4: National Box scheme and CSA survey

Section 1- Instructions

What do you need to fill in this survey?

- Ideally to be the box scheme/CSA manager
- Employee information including wages and approx hours worked
- Profit and loss statement
- List of box scheme/CSA suppliers and where they are located
- Customer numbers and turnover of customer

Please answer as many questions as you can

For questions that ask for figures, approximations are sufficient, 100% accuracy is not necessary

1 Name of your box scheme or CSA

--

Go to section 2

Section 2 - What type of Box Scheme/ CSA do you manage?

- 2 In the following table tick Yes or No to the questions in the first column on the left. When the answer is Yes try to estimate a percentage of the total value of produce sold. In this section by enterprise I mean Box Scheme or CSA and by produce I mean fruits and vegetables

	Yes or No		Approximate percentage of the total value of produce sold
	Yes	No	
Does the enterprise buy in produce?			
Does the enterprise grow produce?			
Does the enterprise sell produce bought directly from UK farmers?			
Does the enterprise sell produce bought from wholesalers?			
Does the enterprise sell produce that was grown outside the UK?			
Does the enterprise sell produce grown in the UK?			
Does the enterprise sell conventional (non-organic) produce?			
Does the enterprise sell organically grown but not organically certified produce?			

Go to section 3

Section 3 - Enterprise logistics and operational information

In the following questions by enterprise I mean Box Scheme or CSA

- 3 How many customers/members does the enterprise have currently?
- 4 How many customers did you lose in the past year?
- 5 How many customers did you gain in the past year?
- 6 Approximately, how big is the area covered by the enterprise's customer base?
 - ☐ Up to 10 mile radius
 - ☐ Up to 50 Mile radius
 - ☐ Up to 100 mile radius
 - ☐ Over 100 mile radius
- 7 How does the enterprise deliver to its customers?
 - ☐ Customers receive a home delivery
 - ☐ Customers pick up from a range of pick up points
 - ☐ Customers pick up from one location (headquarters)
 - ☐ Other

7.a If you selected Other, please specify:

- 8 Who weighs and packs produce for customers?
- ☐ The enterprise's staff and/or volunteers weigh and pack the produce for customers to take
- ☐ The enterprise's customers weigh and pack their own produce
- ☐ Other

8.a If you selected Other, please specify:

- 9 Does your enterprise supply customers all year round or sometimes during the year?
- ☐ All year round
- ☐ Sometimes during the year
- ☐ Other

Appendices

9.a If you selected Other, please specify:

10 How many years has the enterprise being in operation?

11/11/2019

11 From the following list, tick the products that you sell through your enterprise

- ☐ Vegetables
- ☐ Fruit
- ☐ Eggs
- ☐ Dairy
- ☐ Bread
- ☐ Meat/Fish

11.a If there are any other products not included in the list that you supply, please list them here

12 What types of box sizes / shares does your enterprise have? Please specify what they are, for example Small, Medium, Large. Include any further details if you wish

13 How often do your customers pay for their box/share?

- ☐ Once a year
- ☐ Once a month
- ☐ Other

13.a If you selected Other, please specify:

14 What is the legal structure of your enterprise?

- ☐ Community/social enterprise
- ☐ Commercial enterprise
- ☐ Other

Appendices

14.a If you selected Other, please specify:

15 Do you have a written mission statement?

- ☐ Yes
- ☐ No

15.a If yes, please provide a link to your website or write your mission statement

16 Do you think of your enterprise as a box scheme or a CSA?

- ## ○ Box Scheme

Go to section 4

- CSA

Go to section 5

Section 4 - Box scheme employee and volunteer information

Because of the multiple factors in farming employment please fill out the following table with the current employment situation of your employees

- 17 Fill out the following table with information about each of your current employees. If the box scheme is part of a bigger business please only include employees who do box scheme related

	Is the employee: Permanent (P) Seasonal (S)		How many hours does the employee work per week?	Approximately how many hours per week does the employee spend on box scheme related activities? (Do not include time spent growing food)	What is the employee's salary after tax in £?	Is this salary... Yearly (Y) Monthly (M) Hourly (H)		
	S	P				Y	M	H
Employee 1								
Employee 2								
Employee 3								
Employee 4								
Employee 5								
Employee 6								
Employee 7								
Employee 8								
Employee 9								
Employee 10								
Employee 11								
Employee 12								
Employee 13								
Employee 14								

- 18 If you have more than 15 employees please tick yes
☐ Yes
- 19 Approximately how many people have volunteered/ worked for free at the box scheme in the last month?
- 20 Approximately how many hours in total did your volunteers/ non paid staff work in the last month?

Appendices

21 If you want to give any further details on volunteers or non-paid staff, please do so here

22 Do you have work-boxes? Meaning boxes where people work at the box scheme as part of the payment

- ☐ Yes
- ☐ No

22.a If yes, please give details

Go to section 6

Section 5 - CSA employee, volunteer and member information

Because of the multiple factors in farming employment please fill out the following table with the current employment situation of your employees.

- 24 Fill out the following table with information about each of the current employees of the CSA.

	Is the employee: Permanent (P) Seasonal (S)		How many hours does the employee work per week?	Approximate-ly how many hours per week does the employee spend on box scheme related activities? (Do not include time spent growing food)	What is the employee's salary after tax in £?	Is this salary... Yearly (Y) Monthly (M) Hourly (H)		
	S	P				Y	M	H
Employee 1								
Employee 2								
Employee 3								
Employee 4								
Employee 5								
Employee 6								
Employee 7								
Employee 8								
Employee 9								
Employee 10								
Employee 11								
Employee 12								
Employee 13								
Employee 14								

- 25 Approximately how many volunteers and/or members did you have volunteering in the last month?

- 26 Approximately how many hours in total did your volunteers and or members worked in the last month?

- 27 Do you require your members to work on the CSA as part of receiving a share?

☐ Yes

☐ No

Appendices

- 28 Do you have work-shares? Meaning shares where people work at the CSA as part of the payment

☐ Yes

ONo

- 28.a If yes, how many workshares do you have?

- 29** If you want to give any further details on volunteers/ non-paid staff, please do so here

Go to section 6

Section 6 - Business Structure Information

- 30** Do you run your enterprise alongside other business activities? For example a farm, shop, online shop, wholesaling, community work, training, education etc.

☐ Yes

Go to section 7

☐ No

Go to section 8

Section 7 - Business Structure Information II

- 31** Tell us more about the business activities you run alongside the enterprise

- 32 Since you run the box scheme/CSA alongside other businesses activities, have you set up the box scheme/CSA as a separate entity?

☐ Yes

Go to section 8

☐ No

Go to section 9

Section 7 - Box Scheme and CSA information

In the following section by enterprise I mean Box Scheme or CSA and by produce I mean fruits and vegetables

33 What is the financial year of the enterprise? For example 01 August - 31 July

34 What was the financial performance of the enterprise at the end of the last financial year?

- ☐ Made a profit
- ☐ Broke even
- ☐ Made a loss
- ☐ Other

34.a If you selected Other, please specify:

35 If the enterprise received grants or subsidies in the last financial year, how much did it receive?

36 What was the approximate monetary value of **ALL PURCHASES** (goods and services) by the enterprise during the last financial year?

37 What was the approximate monetary value of **ALL SALES** (goods and services) by the enterprise during the last financial year?

38 What was the approximate monetary value of all fruit and/or vegetables purchased by the enterprise in the last financial year?

Appendices

The following question is a bit complicated and requires a bit of homework. You are not required to answer it, but if you can, give the best estimate you can. This information is very valuable as it will help me understand the economic impact of Box Schemes and CSAs in the UK

- 39 Complete the following table which asks about the value of **ALL PURCHASES AND SALES** in different locations. Please enter the percentage, purchased or sold in each zone during the **last financial year**.

	Up to 10 miles from the enterprise	Up to 50 miles from the enterprise	Up to 100 miles from the enterprise	Elsewhere in the UK	Outside the UK
ALL purchases					
ALL sales					

Go to section 10

Section 9 - Business financial information

In this section by ‘Business’ I mean the whole of your business

- 41** What is the financial year of the business? For example 01 August - 31 July

- 42 What was the financial performance of the business at the end of the last financial year?

- ☐ Made a profit
- ☐ Broke even
- ☐ Made a loss
- ☐ Other

- 42.a** If you selected Other, please specify:

- 43 If the business received grants or subsidies in the last financial year, how much did it receive?

- 44 What was the approximate value of **ALL PURCHASES** (goods and services) by the business during the last financial year?

Page 10 of 10

- 45 What was the approximate value of **ALL SALES** (goods and services) by the business during the last financial year?

- 45.a From this figure how much money or what percentage was generated by the Box Scheme / CSA?

- 46 What was the approximate monetary value of all fruit and/or vegetables purchased by the enterprise in the last financial year?

Appendices

The following question is a bit complicated and requires a bit of homework. You are not required to answer it, but if you can, give the best estimate you can. This information is very valuable as it will help me understand the economic impact of Box Schemes and CSAs in the UK

- 47 Complete the following table which asks about the value of **ALL PURCHASES AND SALES** in different locations. Please enter the percentage, purchased or sold in each zone during the **last financial year**.

	Up to 10 miles from the enterprise	Up to 50 miles from the enterprise	Up to 100 miles from the enterprise	Elsewhere in the UK	Outside the UK
ALL purchases					
ALL sales					

Go to section 10

Section 10 - About you

48 What is the post code of your home?

49 What is your household income after tax (take home pay)?

- ☐ £0 - £15,000
☐ £15,001 - £24,000
☐ £24,001 - £40,000
☐ £40,001 - £55,000
☐ £55,001+

50 Indicate your ethnic origin

- ☐ White British
☐ White Irish
☐ White European
☐ Indian
☐ Pakistani
☐ Bangladeshi
☐ Caribbean
☐ African
☐ Any other Black background
☐ White and Black Caribbean
☐ White and Black African
☐ White and Asian
☐ Any other mixed background
☐ Any other white background
☐ Other

50.a If you selected Other, please specify:

51 How old are you?

52 Which of the following describes the level of formal education you have received?

- ☐ Full secondary education (up to 16 years old)
- ☐ Further education (16 years old plus) (BTEC, City and Guilds, NVQ 3+or NHC)
- ☐ Higher education (18 years old plus) (HND, Degree, Masters Degree or PhD)

53 What is your marital status?

- ☐ Single
- ☐ Married/cohabiting

54 What is your gender?

- ☐ Female
- ☐ Male

Appendices

- 55 Approximately, how many hours do you work on the enterprise per week?
- 56 Approximately, how many hours do you get paid for per week?
- 57 Do you have any other jobs aside from the box scheme/ CSA?
☐ Yes
☐ No
- 58 Did you ever work in the food or farming sector before being involved/working in the box scheme/ CSA?
☐ Yes
☐ No
- 59 How many years have you been living in the area?
- 60 How far do you live from where you grew up?
☐ Same location ☐ Within 50 miles
☐ Within 10 miles ☐ Within 100 miles
☐ Within 25 miles ☐ Over 100 miles
- 61 How would you describe where most of your close family live?
☐ Same location ☐ Within 50 miles
☐ Within 10 miles ☐ Within 100 miles
☐ Within 25 miles ☐ Over 100 miles
- 62 How would you describe where most of your close friends live?
☐ Same location ☐ Within 50 miles
☐ Within 10 miles ☐ Within 100 miles
☐ Within 25 miles ☐ Over 100 miles

Do you want be a case study?

The aim of this research is to find the economic scale, economic impact and the scalability of box schemes and CSAs in the UK. To date, there is very little information about the size of the box scheme and CSA sector and, due to Brexit, it is now more important than ever to understand what this sector is and what socio-economic benefits it brings to people, farmers and nature in the UK.

Therefore, I would like to invite your box scheme or CSA to take part in an in-depth research project that will analyse the economic impact of your enterprise, the size of the food movement in your local area and the challenges and opportunities to grow your box scheme. By doing so you will contribute to a better understanding of box schemes and CSAs in the UK

- 63 Would you like to be one of the case studies?

<input type="radio"/> Yes	Go to section 11
<input type="radio"/> No	Go to section 12

Section 11 - Personal Information

Thank you for your interest in taking part in the case studies. Please fill out the details below so that I can get in touch with you

64 Address of business

65 Contact name

66 Contact phone number

67 Contact email

68 Business website

Section 12 - Anything else?

69 If there is anything that you felt was not covered by the survey or if there is any feedback you would like to include please write it below

Go to section 13

Section 13 - Your rights and my responsibilities

You are done filling out the survey! but I just need to tell you some things

Dear Participant,

This page aims to inform you of your rights as a participant and my responsibilities as a researcher

The aim of the survey

The overall aim of the PhD project is to assess the economic value and economic impact of the box scheme and CSA sector. Therefore, this research needs to identify who is part of the sector and collect information such as turnover, number of employees, number of customers, wages and purchase and sales figures. The method chosen to collect this information is a survey because it can be easily accessed by many and it requires less financial resources than other data collection techniques such as interviews.

How is the data going to be used?

The primary purpose is to use the survey results as evidence in my PhD dissertation.

Academic and non-academic publications, presentations and website/weblog will also use the data collected in this survey. When presenting, results will be anonymised and aggregated. This means **the information you give on this survey will never be presented outside of the overall results and the name of your business will never be associated publicly with the results of the survey without your express permission.**

Results are meant to give an overall picture of the box scheme and CSAs sectors. Data will be stored in OneDrive which is the file hosting service provided by Coventry University. OneDrive is subject to monitoring by Microsoft and the files are protected by accessing Coventry University portal with an exclusive username and password. **Please note this is an independent academic study and data will not be used for commercial purposes.**

Withdrawal options

Your participation and the participation of your box/scheme CSA is voluntary and you are free to withdraw at any time without giving any reason. You can also change your mind about participating. The deadline to withdraw is 1 December 2017.

What if things go wrong? Who do I complain to?

Content removed on data protection grounds.

Go to section 14

Section 14 - Consent

The aim of consent is to signify that you (the participant) agree to everything described in the 'Your Rights My Responsibilities' page (previous page). Tick Yes to the following statements if you agree with them. If you do not agree please contact me at guzmanrp@uni.coventry.ac.uk

- 70 I confirm that I have read and understood the project information page for this survey
☐ Yes
- 71 I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason
☐ Yes
- 72 I understand that I also have the right to change my mind about participating in the study for a short period after the study has concluded. The final date to withdraw is 1 December 2017
☐ Yes
- 73 I understand that the information given in this survey will be used for publications, presentations and website/weblog only in an anonymised and aggregated manner. This means the name of my business will not be associated with the results of the survey unless I give express permission at a later date.
☐ Yes

Section 15 - Thank you!

Content removed on data protection grounds.

Now place this survey in the self-addressed envelope provided and send it by Wednesday 26 July 2017

Best wishes,
Paola Guzman

Appendix 5a: Ethical approval 22 March 2016



Certificate of Ethical Approval

Applicant:

Paola Guzman

Project Title:

Assessing the economic value, impact and scalability of community-led trade initiatives to support sustainable farming systems in the UK

This is to certify that the above named applicant has completed the Coventry University Ethical Approval process and their project has been confirmed and approved as Medium Risk

Date of approval:

22 March 2016

Project Reference Number:

P42087

Appendix 5b: Ehtical approval 21 July 2016



Certificate of Ethical Approval

Applicant:

Paola Guzman

Project Title:

Assessing the economic value, impact and scalability of community led initiatives to support sustainable farming systems in the UK

This is to certify that the above named applicant has completed the Coventry University Ethical Approval process and their project has been confirmed and approved as Medium Risk

Date of approval:

21 July 2016

Project Reference Number:

P45330

Appendix 5c: Ethical approval 12 December 2016



Certificate of Ethical Approval

Applicant:

Paola Guzman

Project Title:

Examining the extent/level of 'community-led' trade as a viable component of the
London food system

This is to certify that the above named applicant has completed the Coventry
University Ethical Approval process and their project has been confirmed and
approved as Medium Risk

Date of approval:

12 December 2016

Project Reference Number:

P49484

Appendix 5d: Ethical approval 10 April 2017



Certificate of Ethical Approval

Applicant:

Paola Guzman

Project Title:

Assessing the economic value, economic impact and scalability of 'alternative food networks' using vegetable box schemes as an example

This is to certify that the above named applicant has completed the Coventry University Ethical Approval process and their project has been confirmed and approved as Medium Risk

Date of approval:

10 April 2017

Project Reference Number:

P52830

Appendix 6: Map of operational and financial characteristics and their connection to chapters 5 and 6

